Colour Television

Chassis

LC7.2E

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Service
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Service Manual

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PHILIPS

1. Technical Specifications, Connections, and Chassis Overview

Index of this chapter:

1.1 Technical Specifications
1.2 Connection Overview
1.3 Chassis Overview

Notes:

- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

1.1 Technical Specifications

1.1.1 Vision

Display type	:	LCD
Screen size	:	26” (66 cm), 16:9
	:	32” (82 cm), 16:9
	:	37” (94 cm), 16:9
	:	42” (107 cm), 16:9
Resolution (HxV pixels)	:	1366x768
	:	1920x1080 (42PFL7662)
Dyn. contrast ratio	:	3500:1 (26”)
	:	4000:1 (32”)
	:	5000:1 (37”)
	:	5000:1 (42”)
Min. light output (cd/m^2)	:	500
Typ. response time (ms)	:	8 (26”, 32”)
	:	6 (37”)
	:	5 (42”)
Viewing angle (HxV degrees)	:	160x150 (26”)
	:	176x176 (> 26”)
Tuning system	:	PLL
Presets/channels	:	100 presets
Tuner bands	:	VHF, UHF, S, H
TV Colour systems	:	PAL B/G, D/K, I
	:	SECAM B/G, D/K, L/L’
	:	DVB-T COFDM
Video playback	:	NTSC
	:	PAL
	:	SECAM
Supported computer formats	:	640x480
	:	800x600
	:	1024x768
Supported video formats	:	640x480i - 1fH
	:	720x576i - 1fH
	:	640x480p - 2fH
	:	720x576p - 2fH
	:	1920x1080i - 2fH
	:	1280x720p - 3fH
	:	1920x1080p(42PFL7662)

1.1.2 Sound

Sound systems	:	2CS B/G, D/K
	:	NICAM B/G, D/K, I, L
Maximum power (W_{RMS})	:	2 x 5 (26”)
	:	2 x 10 (> 26”)

1.1.3 Miscellaneous

Power supply:

- Mains voltage (V_{AC})	:	220 - 240
- Mains frequency (Hz)	:	50 / 60

Ambient conditions:

- Temperature range (°C)	:	+5 to +40
- Maximum humidity	:	90% R.H.

Power consumption (values are indicative)

- Normal operation (W)	:	≈ 120 (26”)
	:	≈ 140 (32”)
	:	≈ 175 (37”)
	:	≈ 240 (42”)
- Stand-by (W)	:	< 1

Dimensions (WxHxD cm)	:	69.1x47.4x11.1 (26”)
	:	81.6x55.2x11.6 (32”)
	:	94.4x62.8x11.3 (37”)
	:	105.8x69.2x11.6 (42”)
Weight (kg)	:	12.4 (26”)
	:	16.3 (32”)
	:	21.6 (37”)
	:	27.9 (42”)

1.2 Connection Overview

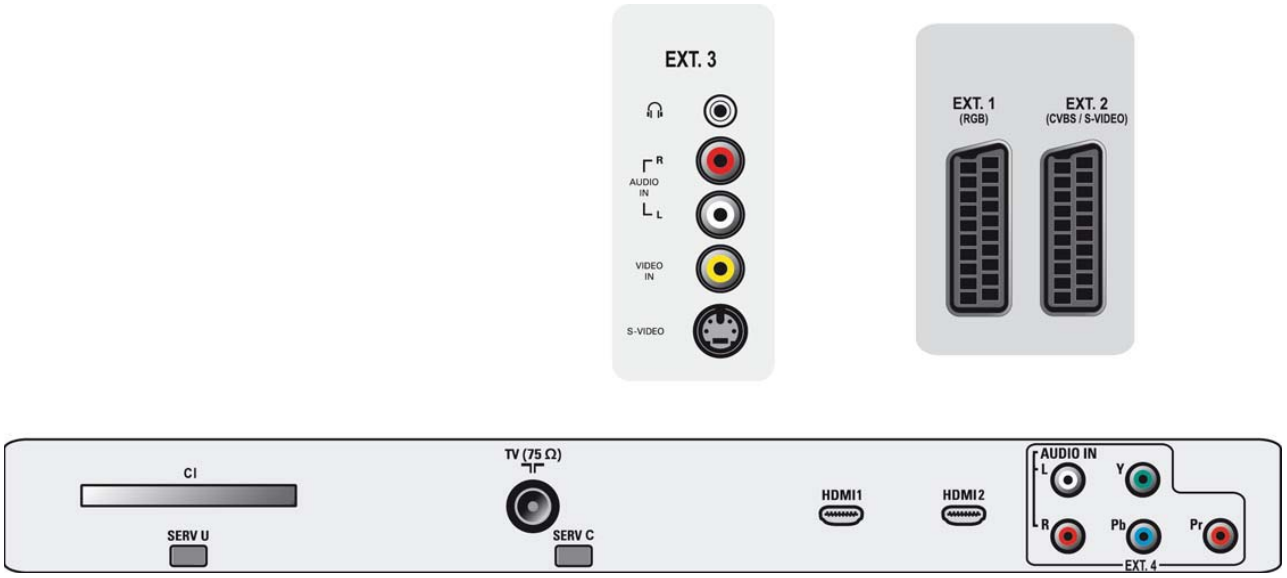

Figure 1-1 Side and rear I/O connections

Note: The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

1.2.1 Side Connections

EXT3: Head phone - Out

Bk	- Head phone	32 - 600 ohm / 10 mW

EXT3: Cinch: Video CVBS - In, Audio - In

Rd	- Audio R	0.5 V_{RMS} / 10 kohm
Wh	- Audio L	0.5 V_{RMS} / 10 kohm
Ye	- Video CVBS	1 V_{PP} / 75 ohm

EXT3: S-Video (Hosiden): Video Y/C - In

1	- Ground Y	Gnd
2	- Ground C	Gnd
3	- Video Y	1 V_{PP} / 75 ohm
4	- Video C	0.3 V_{PP}P / 75 ohm

1.2.2 Rear Connections

EXT1: Video RGB - In, CVBS - In/Out, Audio - In/Out

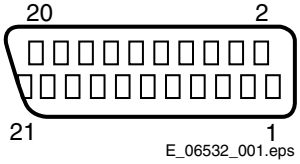

Figure 1-2 SCART connector

1	- Audio R	0.5 V_{RMS} / 1 kohm
2	- Audio R	0.5 V_{RMS} / 10 kohm
3	- Audio L	0.5 V_{RMS} / 1 kohm
4	- Ground Audio	Gnd
5	- Ground Blue	Gnd
6	- Audio L	0.5 V_{RMS} / 10 kohm
7	- Video Blue	0.7 V_{PP} / 75 ohm
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3
9	- Ground Green	Gnd
10	- Easylink P50	0 - 5 V / 4.7 kohm
11	- Video Green	0.7 V_{PP} / 75 ohm
12	- n.c.	
13	- Ground Red	Gnd
14	- Ground P50	Gnd
15	- Video Red	0.7 V_{PP} / 75 ohm
16	- Status/FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm
17	- Ground Video	Gnd
18	- Ground FBL	Gnd
19	- Video CVBS	1 V_{PP} / 75 ohm
20	- Video CVBS	1 V_{PP} / 75 ohm
21	- Shield	Gnd

EXT2: Video YC - In, CVBS - In/Out, Audio - In/Out

1	- Audio R	0.5 V_{RMS} / 1 kohm
2	- Audio R	0.5 V_{RMS} / 10 kohm
3	- Audio L	0.5 V_{RMS} / 1 kohm
4	- Ground Audio	Gnd
5	- n.c.	
6	- Audio L	0.5 V_{RMS} / 10 kohm
7	- C-out	0.7 V_{PP} / 75 ohm
8	- Function Select	0 - 2 V: INT 4.5 - 7 V: EXT 16:9 9.5 - 12 V: EXT 4:3
9	- n.c.	
10	- Easylink P50	0 - 5 V / 4.7 kohm
11	- n.c.	
12	- n.c.	
13	- n.c.	
14	- Ground P50	Gnd
15	- C	0.7 V_{PP} / 75 ohm
16	- Status/FBL	0 - 0.4 V: INT 1 - 3 V: EXT / 75 ohm
17	- Ground Video	Gnd
18	- Ground FBL	Gnd
19	- Video CVBS	1 V_{PP} / 75 ohm
20	- Video CVBS/Y	1 V_{PP} / 75 ohm
21	- Shield	Gnd

Common Interface
68p - See diagram B03C

Service Connector (UART)

1	- UART_TX	Transmit
2	- Ground	Gnd
3	- UART_RX	Receive

Aerial - In

-	- IEC-type (EU)	Coax, 75 ohm

Service Connector (ComPair)

1	- SDA-S	I^2C Data (0 - 5 V)
2	- SCL-S	I^2C Clock (0 - 5 V)
3	- Ground	Gnd

HDMI 1 & 2: Digital Video, Digital Audio - In

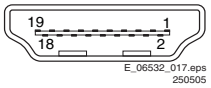

Figure 1-3 HDMI (type A) connector

1	- D2+	Data channel
2	- Shield	Gnd
3	- D2-	Data channel
4	- D1+	Data channel
5	- Shield	Gnd
6	- D1-	Data channel
7	- D0+	Data channel
8	- Shield	Gnd
9	- D0-	Data channel
10	- CLK+	Data channel
11	- Shield	Gnd
12	- CLK-	Data channel
13	- n.c.	
14	- n.c.	
15	- DDC_SCL	DDC clock
16	- DDC_SDA	DDC data
17	- Ground	Gnd
18	- +5V	
19	- HPD	Hot Plug Detect
20	- Ground	Gnd

EXT4: Cinch: Video YPbPr - In, Audio - In

Gn	- Video Y	1 V_{PP} / 75 ohm
Bu	- Video Pb	0.7 V_{PP} / 75 ohm
Rd	- Video Pr	0.7 V_{PP} / 75 ohm
Wh	- Audio L	0.5 V_{RMS} / 10 kohm
Rd	- Audio R	0.5 V_{RMS} / 10 kohm

1.3 Chassis Overview

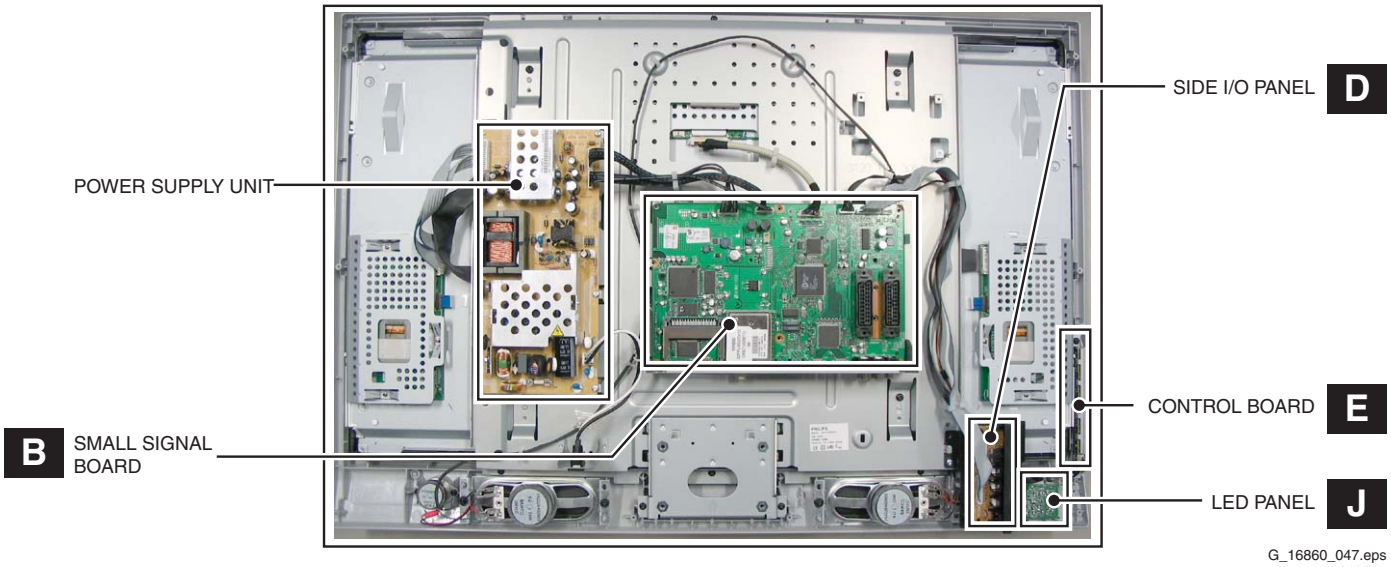

Figure 1-4 PWB/CBA locations (26" and 32" models)

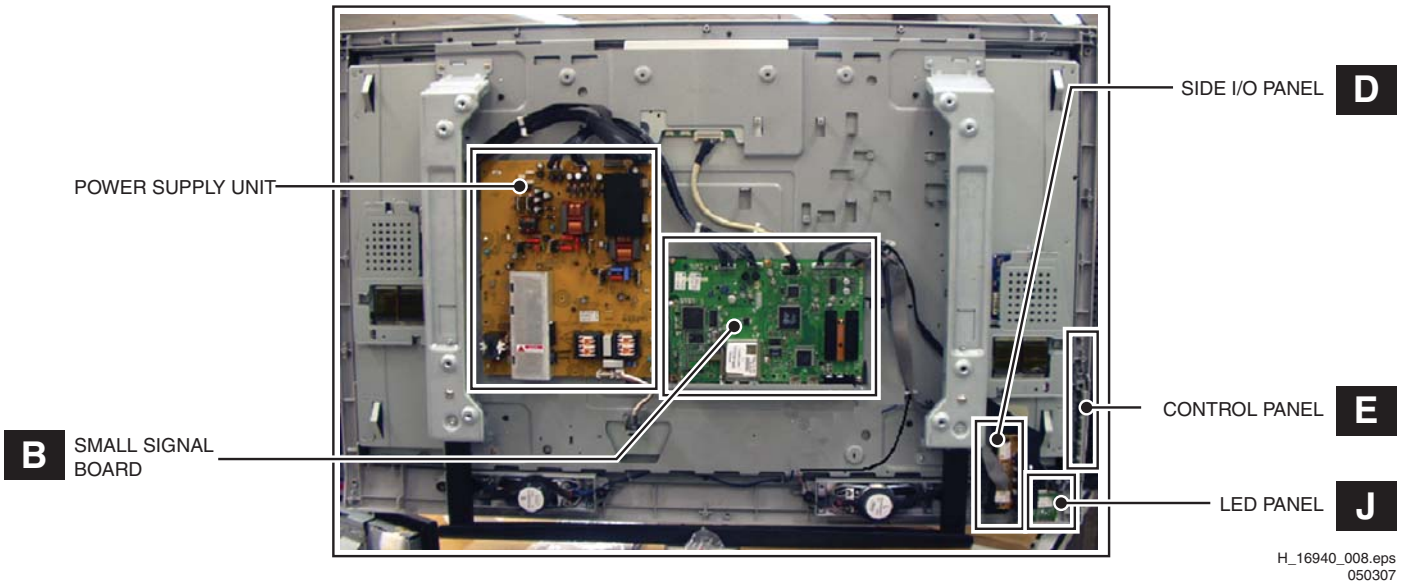

Figure 1-5 PWB/CBA locations (37” and 42” models without 1080p module)

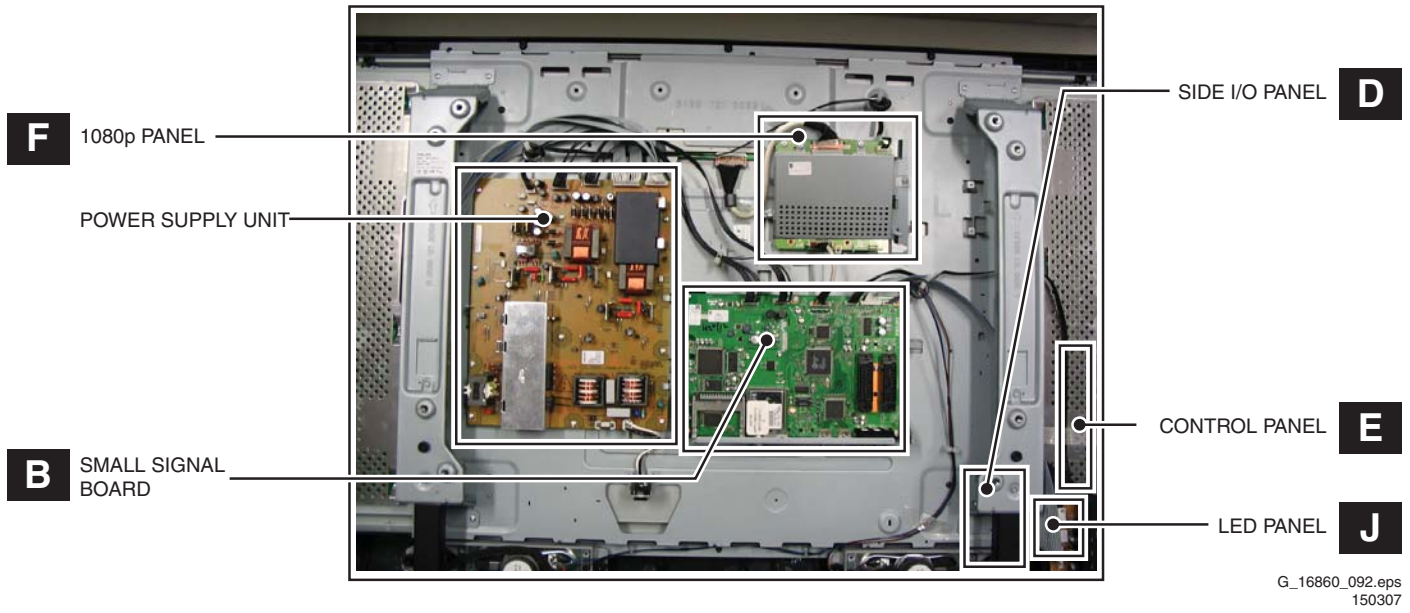

Figure 1-6 PWB/CBA locations (42” models with 1080p module)

2. Safety Instructions, Warnings, and Notes

Index of this chapter:

2.1 Safety Instructions
2.2 Warnings
2.3 Notes

2.1 Safety Instructions

Safety regulations require the following **during** a repair:

- Connect the set to the Mains/AC Power via an isolation transformer (> 800 VA).
- Replace safety components, indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that **after** a repair, the set must be returned in its original condition. Pay in particular attention to the following points:

- Route the wire trees correctly and fix them with the mounted cable clamps.
- Check the insulation of the Mains/AC Power lead for external damage.
- Check the strain relief of the Mains/AC Power cord for proper function.
- Check the electrical DC resistance between the Mains/AC Power plug and the secondary side (only for sets that have a Mains/AC Power isolated power supply):
  1. Unplug the Mains/AC Power cord and connect a wire between the two pins of the Mains/AC Power plug.
  2. Set the Mains/AC Power switch to the "on" position (keep the Mains/AC Power cord unplugged!).
  3. Measure the resistance value between the pins of the Mains/AC Power plug and the metal shielding of the tuner or the aerial connection on the set. The reading should be between 4.5 Mohm and 12 Mohm.
  4. Switch "off" the set, and remove the wire between the two pins of the Mains/AC Power plug.
- Check the cabinet for defects, to prevent touching of any inner parts by the customer.

2.2 Warnings

- All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD ⚠). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are connected with the same potential as the mass of the set by a wristband with resistance. Keep components and tools also at this same potential. Available ESD protection equipment:
  – Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
  – Wristband tester 4822 344 13999.
- Be careful during measurements in the high voltage section.
- Never replace modules or other components while the unit is switched "on".
- When you align the set, use plastic rather than metal tools. This will prevent any short circuits and the danger of a circuit becoming unstable.

2.3 Notes

2.3.1 General

- Measure the voltages and waveforms with regard to the chassis (= tuner) ground (⏚), or hot ground (⏚), depending on the tested area of circuitry. The voltages and waveforms shown in the diagrams are indicative. Measure them in the Service Default Mode (see chapter 5) with a colour bar signal and stereo sound (L: 3 kHz, R: 1 kHz unless stated otherwise) and picture carrier at 475.25 MHz for PAL, or 61.25 MHz for NTSC (channel 3).
- Where necessary, measure the waveforms and voltages with (⊓⊓) and without (⊼⊼) aerial signal. Measure the voltages in the power supply section both in normal operation (⏻) and in stand-by (⏻). These values are indicated by means of the appropriate symbols.
- Manufactured under license from Dolby Laboratories. “Dolby”, “Pro Logic” and the “double-D symbol”, are trademarks of Dolby Laboratories.

2.3.2 Schematic Notes

- All resistor values are in ohms, and the value multiplier is often used to indicate the decimal point location (e.g. 2K2 indicates 2.2 kohm).
- Resistor values with no multiplier may be indicated with either an "E" or an "R" (e.g. 220E or 220R indicates 220 ohm).
- All capacitor values are given in micro-farads (μ= x10^{-6}), nano-farads (n= x10^{-9}), or pico-farads (p= x10^{-12}).
- Capacitor values may also use the value multiplier as the decimal point indication (e.g. 2p2 indicates 2.2 pF).
- An "asterisk" (*) indicates component usage varies. Refer to the diversity tables for the correct values.
- The correct component values are listed in the Spare Parts List. Therefore, always check this list when there is any doubt.

2.3.3 BGA (Ball Grid Array) ICs

Introduction

For more information on how to handle BGA devices, visit this URL: *www.atyourservice.ce.philips.com* (needs subscription, not available for all regions). After login, select “Magazine”, then go to “Repair downloads”. Here you will find Information on how to deal with BGA-ICs.

BGA Temperature Profiles

For BGA-ICs, you **must** use the correct temperature-profile, which is coupled to the 12NC. For an overview of these profiles, visit the website *www.atyourservice.ce.philips.com* (needs subscription, but is not available for all regions)
You will find this and more technical information within the "Magazine", chapter "Repair downloads".
For additional questions please contact your local repair help desk.

2.3.4 Lead-free Soldering

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free soldering tin Philips SAC305 with order code 0622 149 00106. If lead-free solder paste is required, please contact the manufacturer of your soldering equipment. In general, use of solder paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free soldering tin. The solder tool must be able:
  – To reach a solder-tip temperature of at least 400°C.
  – To stabilize the adjusted temperature at the solder-tip.
  – To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature of around 360°C - 380°C is reached and stabilized at the solder joint. Heating time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C, otherwise wear-out of tips will increase drastically and flux-fluid will be destroyed.

To avoid wear-out of tips, switch “off” unused equipment or reduce heat.

- Mix of lead-free soldering tin/parts with leaded soldering tin/parts is possible but PHILIPS recommends strongly **to avoid** mixed regimes. If this cannot be avoided, carefully clear the solder-joint from old tin and re-solder with new tin.

2.3.5 Alternative BOM identification

The **third digit** in the serial number (example: AG**2**B0335000001) indicates the number of the alternative B.O.M. (Bill Of Materials) that has been used for producing the specific TV set. In general, it is possible that the same TV model on the market is produced with e.g. two different types of displays, coming from two different suppliers. This will then result in sets which have the same CTN (Commercial Type Number; e.g. 28PW9515/12) but which have a different B.O.M. number.
By looking at the third digit of the serial number, one can identify which B.O.M. is used for the TV set he is working with. If the third digit of the serial number contains the number “1” (example: AG**1**B033500001), then the TV set has been manufactured according to B.O.M. number 1. If the third digit is a “2” (example: AG**2**B0335000001), then the set has been produced according to B.O.M. no. 2. ***This is important for ordering the correct spare parts!***
For the third digit, the numbers 1...9 and the characters A...Z can be used, so in total: 9 plus 26= 35 different B.O.M.s can be indicated by the third digit of the serial number.

Identification: The bottom line of a type plate gives a 14-digit serial number. Digits 1 and 2 refer to the production centre (e.g. AG is Bruges), digit 3 refers to the B.O.M. code, digit 4 refers to the Service version change code, digits 5 and 6 refer to the production year, and digits 7 and 8 refer to production week (in example below it is 2006 week 17). The 6 last digits contain the serial number.

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Figure 2-1 Serial number (example)

2.3.6 Board Level Repair (BLR) or Component Level Repair (CLR)

If a board is defective, consult your repair procedure to decide if the board has to be exchanged or if it should be repaired on component level.
If your repair procedure says the board should be exchanged completely, do not solder on the defective board. Otherwise, it cannot be returned to the O.E.M. supplier for back charging!

2.3.7 NVM content

If the processor NVM IC is replaced or initialised, the Model Number, Serial Number, and SSB Code number must be re-written to the NVM. ComPair will foresee in a possibility to do this.

2.3.8 Practical Service Precautions

- **It makes sense to avoid exposure to electrical shock.** While some sources are expected to have a possible dangerous impact, others of quite high potential are of limited current and are sometimes held in less regard.
- **Always respect voltages**. While some may not be dangerous in themselves, they can cause unexpected reactions that are best avoided. Before reaching into a powered TV set, it is best to test the high voltage insulation. It is easy to do, and is a good service precaution.

3. Directions for Use

You can download this information from the following websites:
http://www.philips.com/support
http://www.p4c.philips.com

4. Mechanical Instructions

Index of this chapter:

4.1 Cable Dressing
4.2 Service Positions
4.3 Assy/Panel Removal
4.4 Set Re-assembly

Notes:

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassemble instructions in described order.

4.1 Cable Dressing

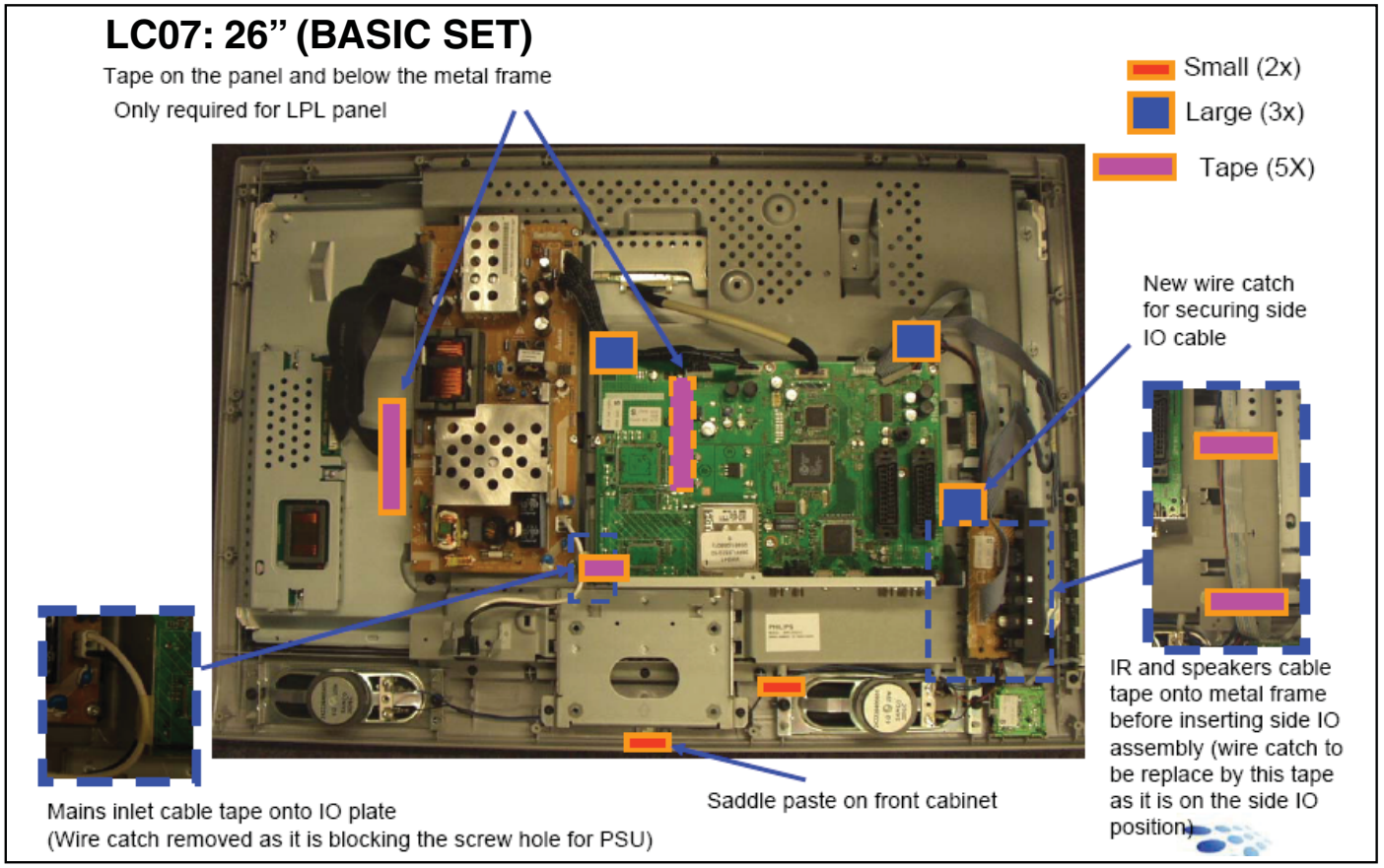

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Figure 4-1 Cable dressing (26" models)

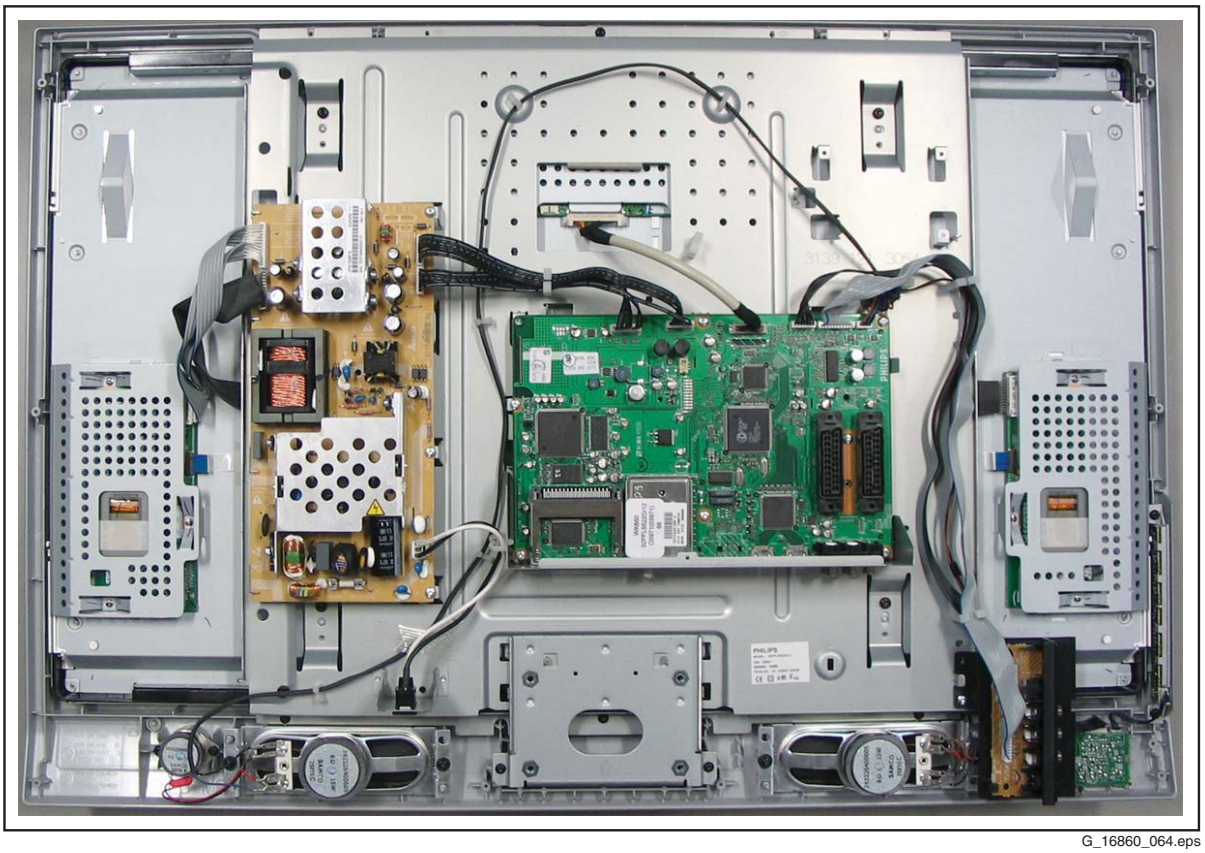

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Figure 4-2 Cable dressing (32-inch models)

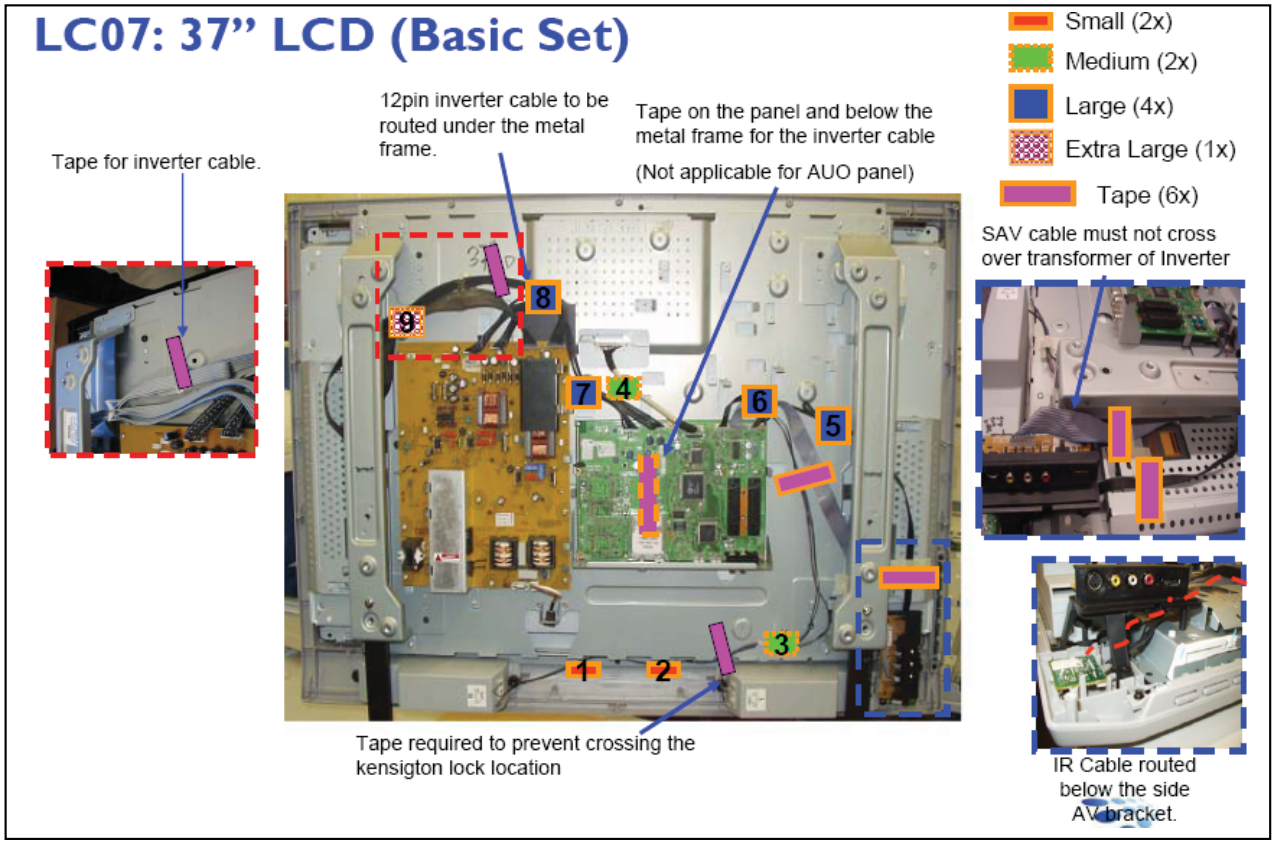

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Figure 4-3 Cable dressing (37" models)

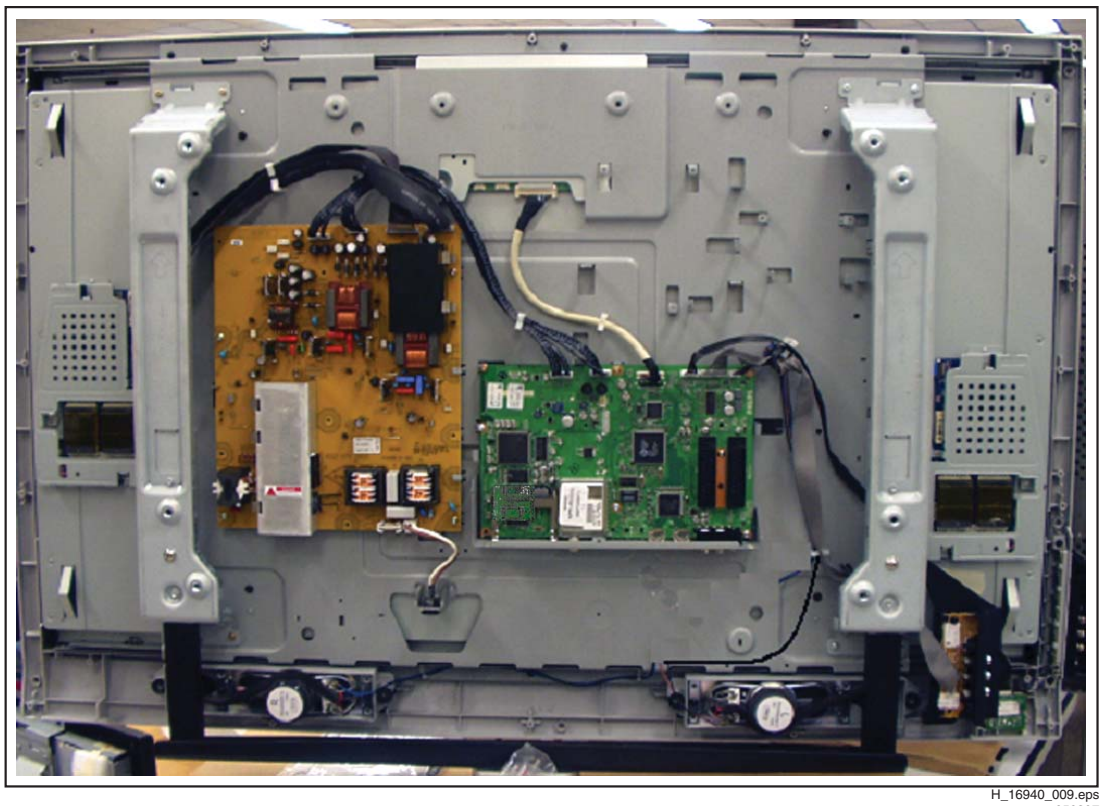

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Figure 4-4 Cable dressing (42” models without 1080p module)

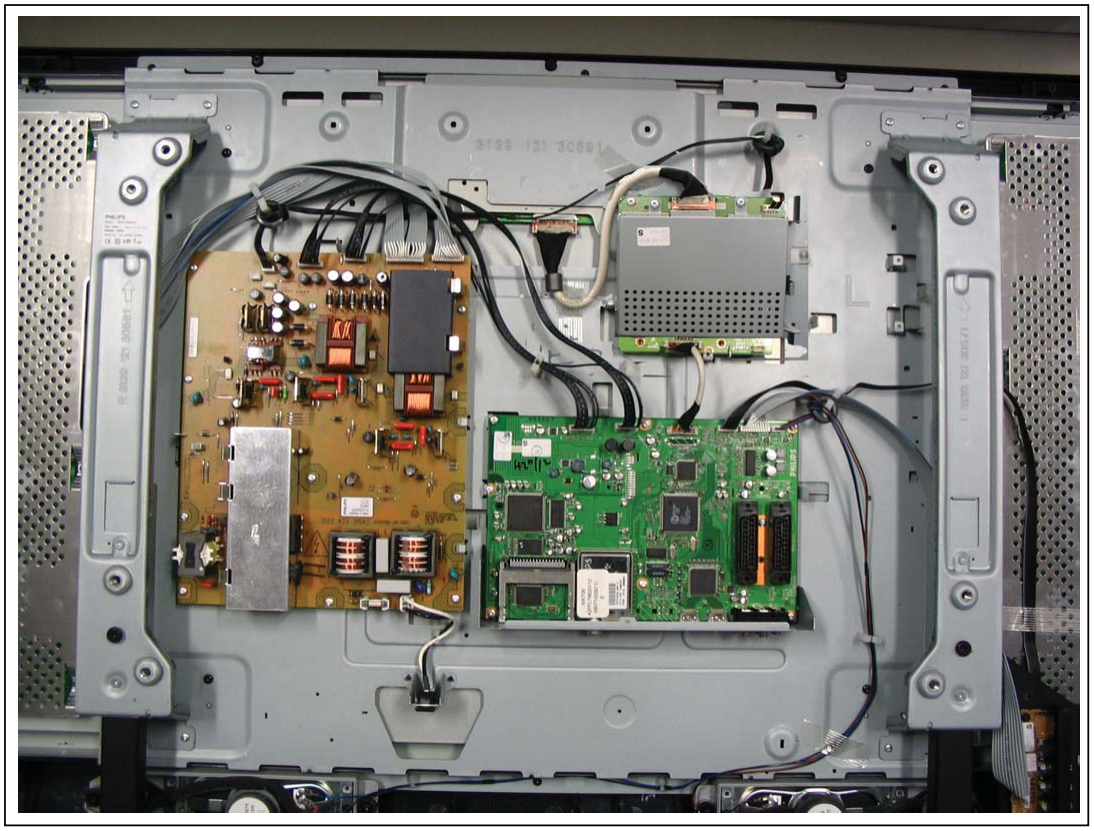

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Figure 4-5 Cable dressing (42” models with 1080p module)

4.2 Service Positions

For easy servicing of this set, there are a few possibilities created:
- The buffers from the packaging.
- Foam bars (created for Service).
- Aluminium service stands (created for Service).

Note: the aluminium service stands can only be used when the set is equipped with so-called “mushrooms”. Otherwise use the original stand that comes with the set.

4.2.1 Foam Bars

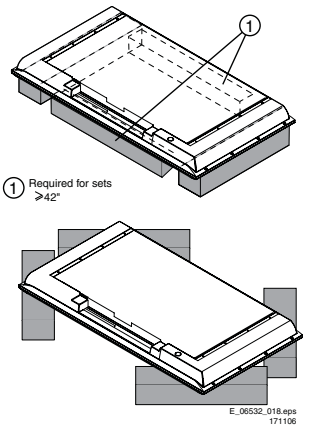

Figure 4-6 Foam bars

The foam bars (order code 3122 785 90580 for two pieces) can be used for all types and sizes of Flat TVs. See figure “Foam bars” for details.
Sets with a display of 42” and larger, require **four** foam bars [1]. Ensure that the foam bars are always supporting the cabinet and **never** only the display.
Caution: Failure to follow these guidelines can seriously damage the display!
By laying the TV face down on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments. By placing a mirror under the TV, you can monitor the screen.

4.2.2 Aluminium Stands

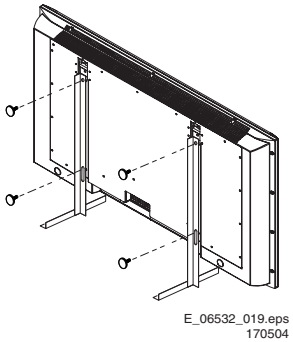

Figure 4-7 Aluminium stands (drawing of MkI)

The new MkII aluminium stands (not on drawing) with order code 3122 785 90690, can also be used to do measurements, alignments, and duration tests. The stands can be (dis)mounted quick and easy by means of sliding them in/out the "mushrooms". The new stands are backwards compatible with the earlier models.
Important: For (older) FTV sets without these "mushrooms", it is obligatory to use the provided screws, otherwise it is possible to damage the monitor inside!

4.3 Assy/Panel Removal

4.3.1 Rear Cover

Warning: Disconnect the mains power cord before you remove the rear cover.

1. Place the TV set upside down on a table top, using the foam bars (see part "Service Position").
2. Remove rear cover screws and the stand (if mounted).
3. Remove rear cover.

4.3.2 Keyboard Control Panel

1. Refer to next figure (is taken from the 32” model, but the method is comparable for the other screen sizes).
2. Remove the T10 parker screws [1].
3. Unplug connector [2].
4. Remove the unit.
5. Release clips [3] and remove the board.

When defective, replace the whole unit.

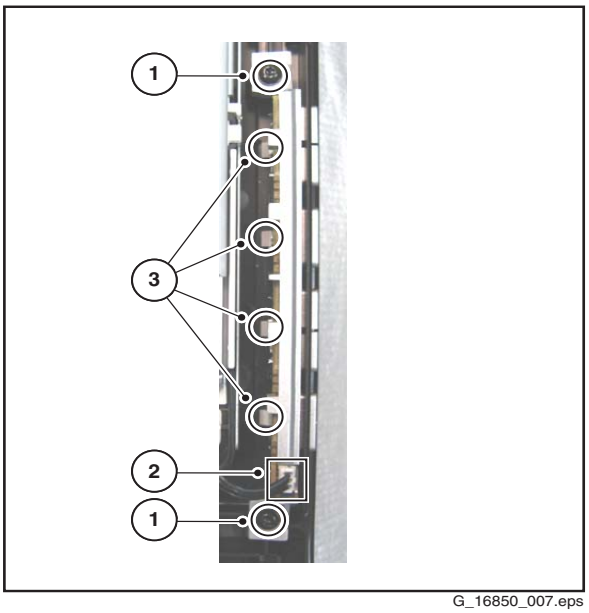

Figure 4-8 Keyboard control panel

4.3.3 Side I/O Panel

1. Refer to next figure (is taken from the 32” model, but the method is comparable for the other screen sizes).
2. Unplug connector [a].
3. Remove screws [b] and remove the complete module. One of the screws is T10 tapping, the other one is T10 parker.
4. Remove T10 parker screw [c]. Refer to next figure.
5. Push catch [d] (located at the underside of the bracket) and slide the unit to the right from its bracket [e]. See fig. “Side I/O panel 2”.
6. To remove the PWB from its bracket, you have to lift the catch [f] located on top of the head phone connector. At the same time, slide the PWB out of its bracket [g]. See fig. “Side I/O panel 3”.

When defective, replace the whole unit.

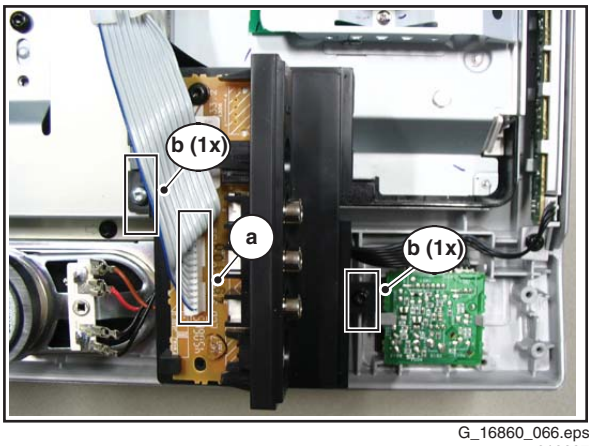

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Figure 4-9 Side I/O module

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Figure 4-10 Side I/O panel [1/3] top side

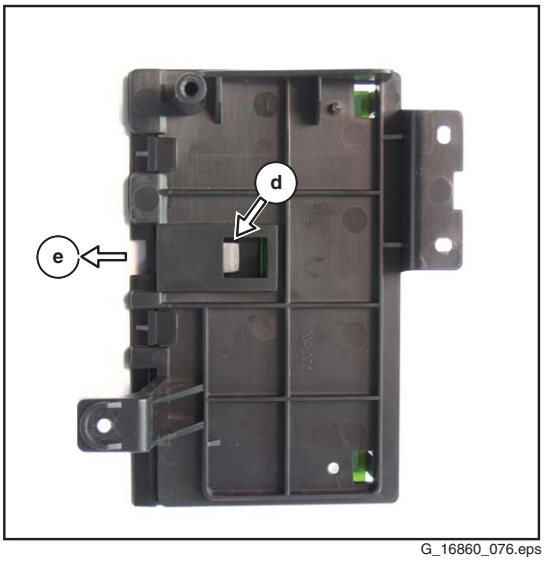

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Figure 4-11 Side I/O panel [2/3] bottom side

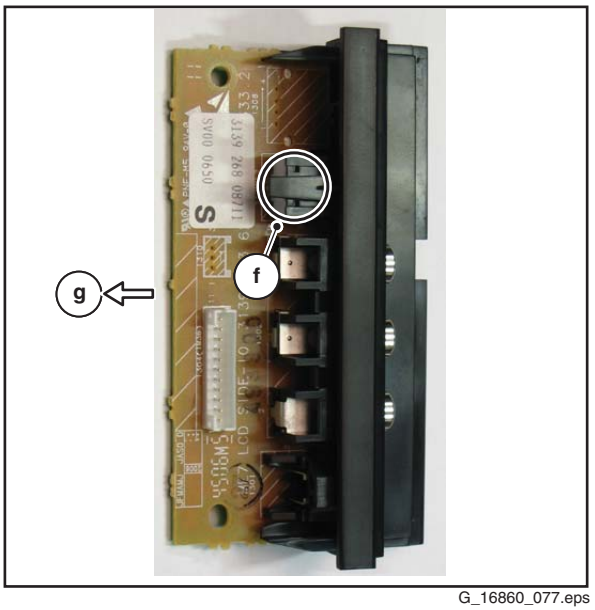

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Figure 4-12 Side I/O panel [3/3]

4.3.4 IR/LED Panel

1. Refer to next figure (is taken from the 32” model, but the method is comparable for the other screen sizes).
2. Unplug connector(s) [1].
3. Release clip [2] and remove the board.

When defective, replace the whole unit.

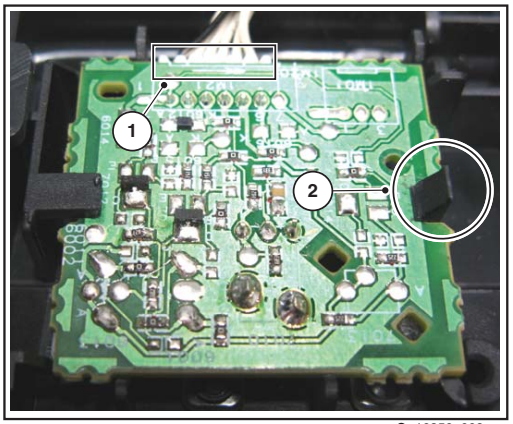

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Figure 4-13 IR/LED panel

4.3.5 Speakers

This depends on the model/screen size: for the 26" and 32" models, the bare speakers are accessible, while for the larger models they are encased, and therefore must be replaced as assembly when defective.

Full- or Mid-range Speakers (for 26" and 32" models)

1. Refer to next figure.
2. Unplug connectors [1].
3. Remove screws [2].

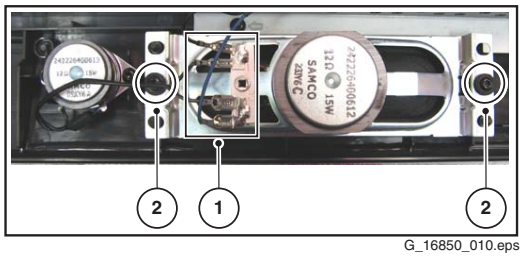

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Figure 4-14 Mid-range speakers

Tweeters (only for 32" models)

1. Refer to next figure.
2. Unplug connectors [1].
3. Remove screws [2].

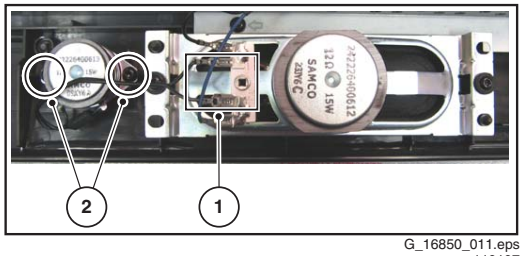

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Figure 4-15 Tweeters

Speaker box (for 37" and 42" models)

1. Refer to next figure.
2. Unplug connectors [1].
3. Remove screws [2].

When defective, replace the whole unit.

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080307

Figure 4-16 Tweeters

4.3.6 1080p Panel

1. Refer to next figure(s).
2. Unplug cables [a]. Be careful with the LVDS connectors as they are very fragile.
3. Remove the fixation screws [b].
4. Take the board out (it hinges at the lower side).
5. Remove the screws [c] that fixate the top and bottom shieldings, and remove the shieldings.

Note: Pay special attention not to damage the EMC foams. Ensure that EMC foams are mounted correctly, especially notice the large EMC foam "block" [d] at the bottom shielding.

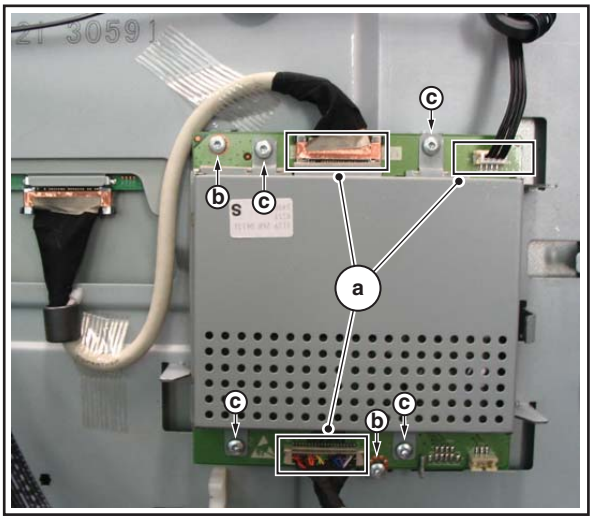

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Figure 4-17 1080p panel

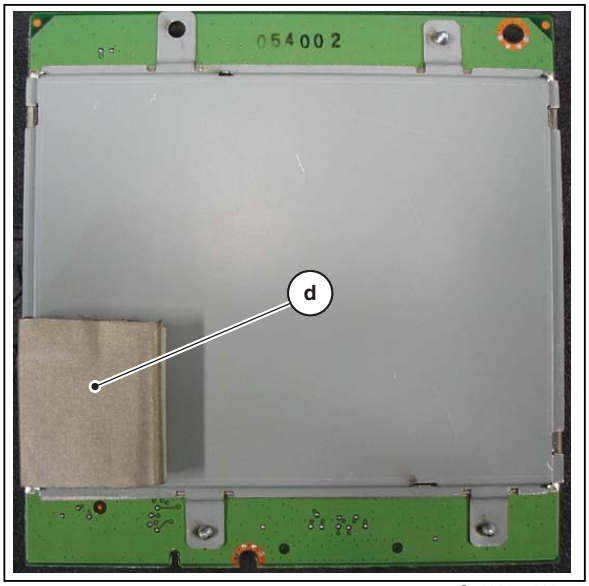

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Figure 4-18 Bottom shielding 1080p panel

4.3.7 Main Supply Panel

Some models (37 and 42PFL3512D) come with a so-called IPB (Integrated Power Board) power supply with integrated backlight inverters. Disassembly is equal as described below.

1. Refer to next figure (is taken from the 32" model, but the method is comparable for the other screen sizes).
2. Unplug cables [a].
3. Remove the fixation screws [b].
4. Take the board out (it hinges at the left side).

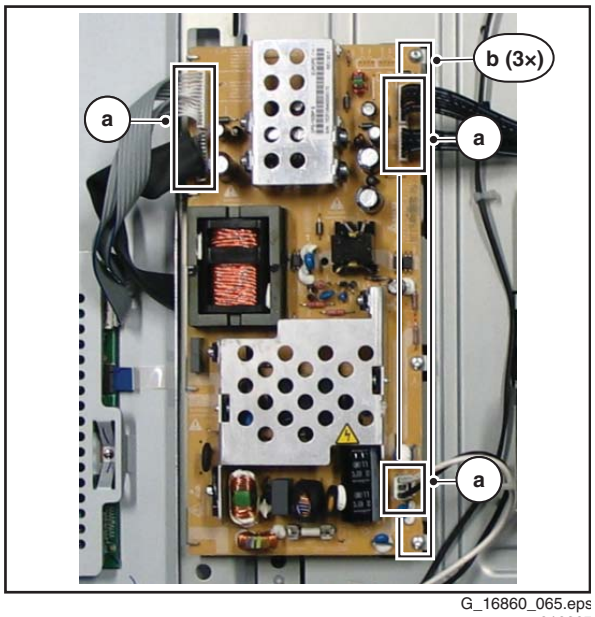

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Figure 4-19 Main supply panel (32" model)

4.3.8 Small Signal Board (SSB)

1. Refer to next figure (is taken from the 32" model, but the method is comparable for the other screen sizes).
2. Disconnect all cables [a] on the SSB.
3. Remove the T10 tapping screws [b] that hold the SSB. See Figure "SSB removal".
4. Remove the screws that hold the CINCH and HDMI connectors at the connector panel.
5. Lift the SSB from the set.

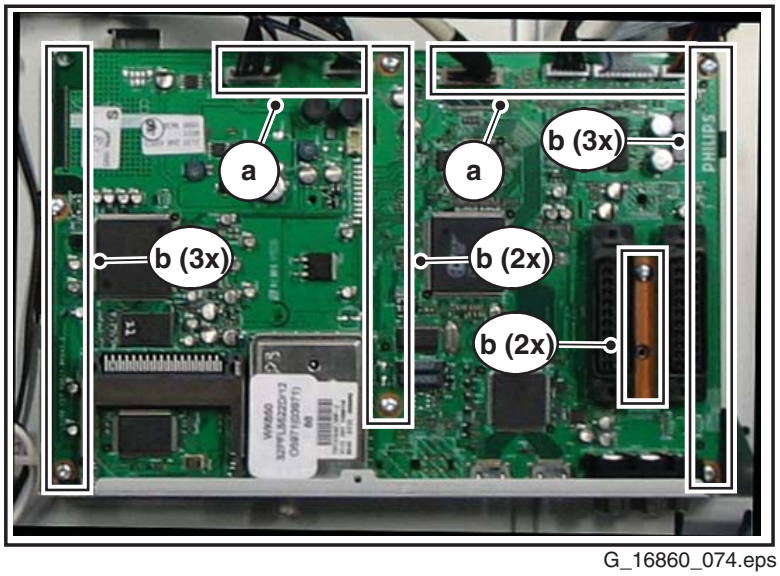

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Figure 4-20 SSB removal

4.3.9 LCD Panel

The disassembly method for the LCD panel differs per model or screen size. The following description applies to the 32" model, but for the other screen sizes, the method is similar.

1. Refer to next figure(s).
2. Unplug the connectors on the Main Supply Panel [a] and the LED & IR board [c].
3. Unplug the connectors [d] from the loudspeakers.
4. **Do NOT forget** to unplug the LVDS connector [e] from the SSB. **Important:** Be careful, as this is a fragile connector!
5. Remove T10 parker screw [b] that holds the Side I/O module bracket.
6. Remove T10 parker screws [f] of the central sub-frame.
7. Remove LCD panel fixation screws [g] and lift the complete central sub-frame from the set (incl. the PSU, SSB, and Side I/O boards and wiring).
8. Lift the LCD panel [7] from the front cabinet.

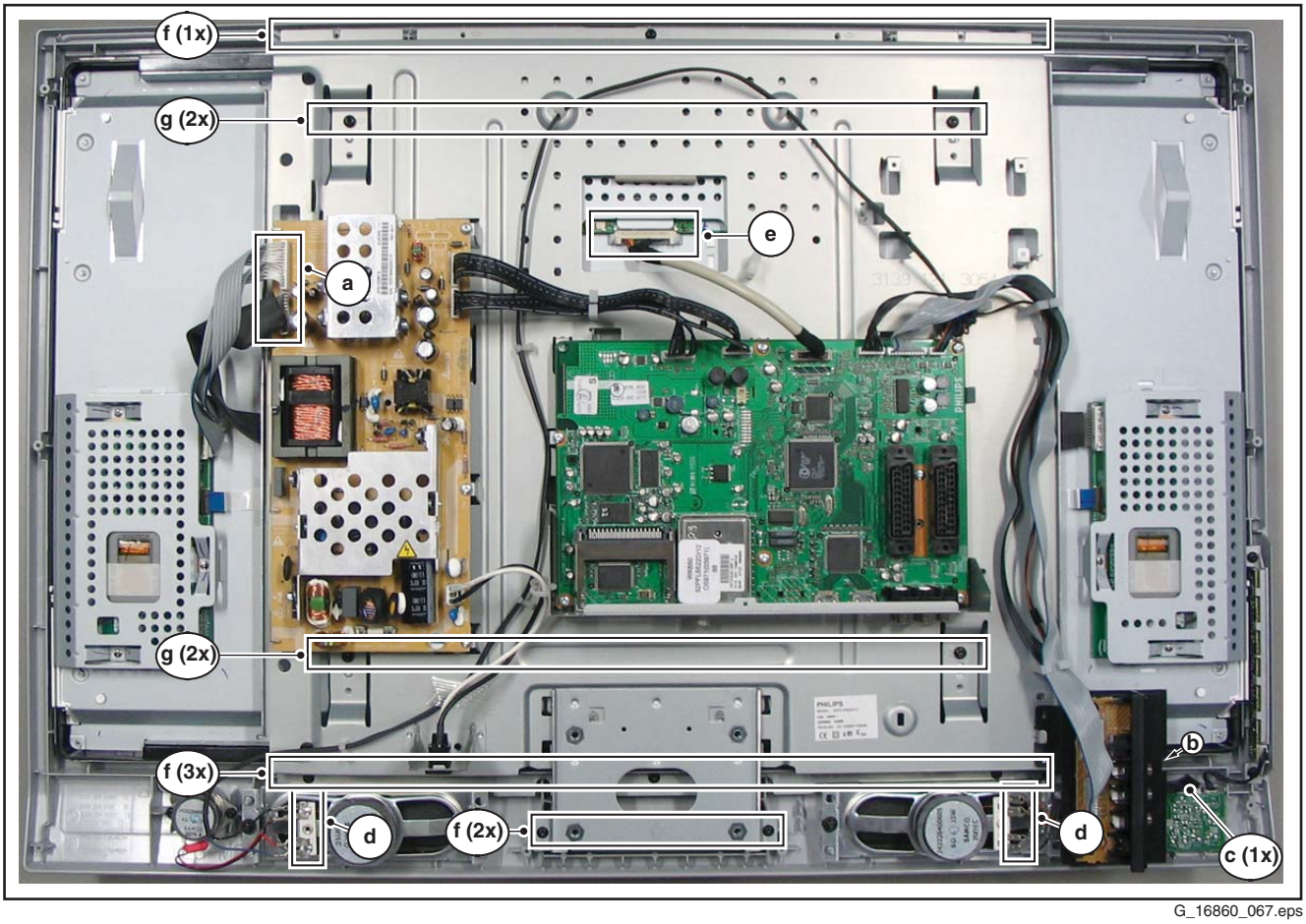

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Figure 4-21 LCD panel 32" [1/2]

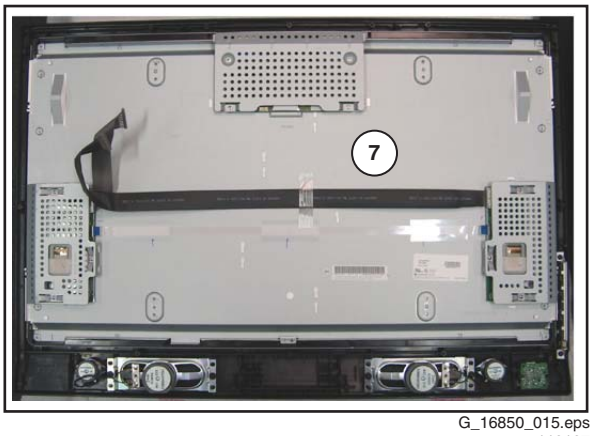

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Figure 4-22 LCD panel 32" [2/2]

4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

Notes:

- While re-assembling, make sure that all cables are placed and connected in their original position. See figure "Cable dressing".
- Pay special attention not to damage the EMC foams. Ensure that EMC foams are mounted correctly (one is located above the LVDS connector on the display, between the LCD display and the metal sub-frame).

5. Service Modes, Error Codes, and Fault Finding

Index of this chapter:

5.1 Test Points
5.2 Service Modes
5.3 Service Tools
5.4 Error Codes
5.5 The Blinking LED Procedure
5.6 Software Upgrading
5.7 Fault Finding and Repair Tips

5.1 Test Points

In the chassis schematics and layout overviews, the test points (Fxxx) are mentioned. In the schematics, test points are indicated with a rectangular box around “Fxxx” or “Ixxx”, in the layout overviews with a “half-moon” sign.
As most signals are digital, it will be difficult to measure waveforms with a standard oscilloscope. Several key ICs are capable of generating test patterns, which can be controlled via ComPair. In this way it is possible to determine which part is defective.

Perform measurements under the following conditions:
- Service Default Mode.
- Video: Colour bar signal.
- Audio: 3 kHz left, 1 kHz right.

5.2 Service Modes

The Service Mode feature is split into four parts:
- Service Default Mode (SDM).
- Service Alignment Mode (SAM).
- Customer Service Mode (CSM) and Digital Customer Service Mode (DCSM).
- Computer Aided Repair Mode (ComPair).

SDM and SAM offer features, which can be used by the Service engineer to repair/align a TV set. Some features are:
- A pre-defined situation to ensure measurements can be made under uniform conditions (SDM).
- Activates the blinking LED procedure for error identification when no picture is available (SDM).
- The possibility to overrule software protections when SDM was entered via the Service pins.
- Make alignments (e.g. white tone), (de)select options, enter options codes, reset the error buffer (SAM).
- Display information (“SDM” or “SAM” indication in upper right corner of screen, error buffer, software version, operating hours, options and option codes, sub menus).

The (D)CSM is a Service Mode that can be enabled by the consumer. The CSM displays diagnosis information, which the customer can forward to the dealer or call centre. In CSM mode, “CSM”, is displayed in the top right corner of the screen. The information provided in CSM and the purpose of CSM is to:
- Increase the home repair hit rate.
- Decrease the number of nuisance calls.
- Solved customers' problem without home visit.

ComPair Mode is used for communication between a computer and a TV on I2C /UART level and can be used by a Service engineer to quickly diagnose the TV set by reading out error codes, read and write in NVMs, communicate with ICs and the uP (PWM, registers, etc.), and by making use of a fault finding database. It will also be possible to up and download the software of the TV set via I2C with help of ComPair. To do this, ComPair has to be connected to the TV set via the ComPair connector, which will be accessible through the rear of the set (without removing the rear cover).

5.2.1 General

Some items are applicable to all Service Modes or are general. These are listed below.

Life Timer
During the life time cycle of the TV set, a timer is kept. It counts the normal operation hours (not the Stand-by hours). The actual value of the timer is displayed in SDM and CSM in a decimal value. Every two soft-resets increase the hour by +1.

Software Identification, Version, and Cluster
The software ID, version, and cluster will be shown in the main menu display of SDM, SAM, and CSM.
The screen will show: “**AAAABCD X.YY**”, where:
- **AAAA** is the chassis name: LC71 for analogue range (non-DVB), LC72 for digital range (DVB).
- **B** is the region indication: E= Europe, A= AP/China, U= NAFTA, L= LATAM.
- **C** is the display indication: L= LCD, P= Plasma.
- **D** is the language/feature indication: 1= standard, H= 1080p full HD.
- **X** is the main version number: this is updated with a major change of specification (incompatible with the previous software version). Numbering will go from 1 - 9 and A - Z.
  - If the main version number changes, the new version number is written in the NVM.
  - If the main version number changes, the default settings are loaded.
- **YY** is the sub version number: this is updated with a minor change (backwards compatible with the previous versions) Numbering will go from 00 - 99.
  - If the sub version number changes, the new version number is written in the NVM.
  - If the NVM is fresh, the software identification, version, and cluster will be written to NVM.

Display Option Code Selection
When after an SSB or display exchange, the display option code is not set properly, it will result in a TV with “no display”. Therefore, **it is required** to set this display option code after such a repair.
To do so, press the following key sequence on a standard RC transmitter: “**062598**” directly followed by **MENU** and “**xxx**”, where “xxx” is a 3 digit decimal value of the panel type: see column “Panel Code” in table “Option Codes OP1...OP7” (ch. 8), or see sticker on the side/bottom of the cabinet. When the value is accepted and stored in NVM, the set will switch to Stand-by, to indicate that the process has been completed.

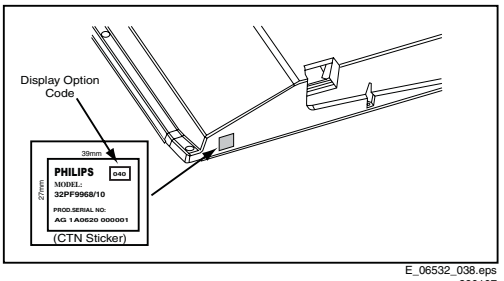

Figure 5-1 Location of Display Option Code sticker

During this algorithm, the NVM-content must be filtered, because several items in the NVM are TV-related and not SSB-related (e.g. Model and Prod. S/N). Therefore, “Model” and “Prod. S/N” data is changed into “See Type Plate”.
In case a call centre or consumer reads “See Type Plate” in CSM mode, he needs to look to the side/bottom sticker to identify the set, for further actions.

5.2.2 Service Default Mode (SDM)

Purpose

Set the TV in SDM mode in order to be able to:

- Create a pre-defined setting for measurements to be made.
- Override software protections.
- Start the blinking LED procedure.
- Read the error buffer.
- Check the life timer.

Specifications

Table 5-1 SDM default settings

Region	Freq. (MHz)	Default syst.
Europe (except France), AP-PAL/-Multi	475.25	PAL B/G
France		SECAM L
NAFTA, AP-NTSC	61.25 (channel 3)	NTSC M
LATAM		PAL M

- Set linear video and audio settings to 50%, but volume to 25%. Stored user settings are not affected.
- All service-unfriendly modes (if present) are disabled, since they interfere with diagnosing/repairing a set. These service unfriendly modes are:
  - (Sleep) timer.
  - Blue mute/Wall paper.
  - Auto switch “off” (when there is no “ident” signal).
  - Hotel or hospital mode.
  - Child lock or parental lock (manual or via V-chip).
  - Skipping, blanking of “Not favourite”, “Skipped” or “Locked” presets/channels.
  - Automatic storing of Personal Preset or Last Status settings.
  - Automatic user menu time-out (menu switches back/ OFF automatically.
  - Auto Volume levelling (AVL).

How to Activate

To activate SDM, use **one** of the following methods:

- Press the following key sequence on the remote control transmitter: “**062596**” directly followed by the **MENU** button (do not allow the display to time out between entries while keying the sequence).
- Short one of the “Service” jumpers on the TV board during cold start (see Figures “Service jumper”). Then press the mains button (remove the short after start-up).
  Caution: Activating SDM by shorting “Service” jumpers will override the DC speaker protection (error 1), the General I2C error (error 4), and the Trident video processor error (error 5). When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.

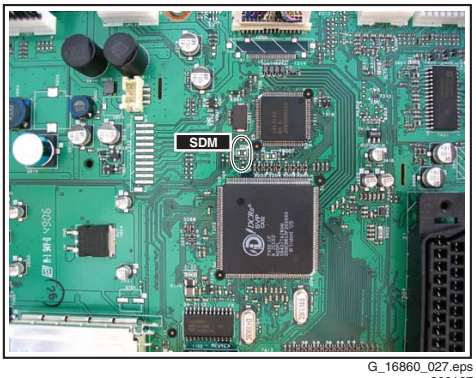

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Figure 5-2 Service jumper (SSB component side)

On Screen Menu

After activating SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Mode.

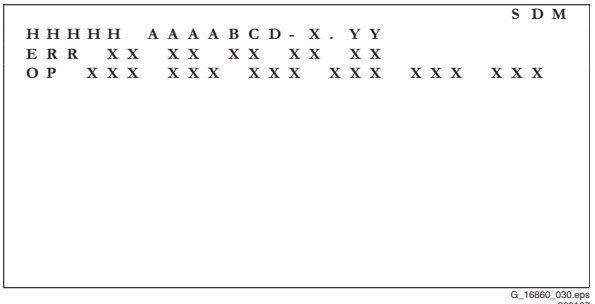

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Figure 5-3 SDM menu

Menu explanation:

- **HHHHH**: Are the operating hours (in decimal).
- **AAAABCD-X.YY**: See paragraph “Service Modes” -> “General” -> “Software Identification, Version, and Cluster” for the SW name definition.
- **SDM**: The character “SDM” to indicate that the TV set is in Service mode.
- **ERR**: Shows all errors detected since the last time the buffer was erased. Five errors possible.
- **OP**: Used to read-out the option bytes. See “Options” in the Alignments section for a detailed description. Seven codes are possible.

How to Navigate

As this mode is read only, there is not much to navigate. To switch to other modes, use one of the following methods:

- Command MENU from the user remote will enter the normal user menu (brightness, contrast, colour, etc...) with “SDM” OSD remaining, and pressing MENU key again will return to the last status of SDM again.
- To prevent the OSD from interfering with measurements in SDM, command “OSD” (“STATUS” for NAFTA and LATAM) from the user remote will toggle the OSD “on/off” with “SDM” OSD remaining always “on”.
- Press the following key sequence on the remote control transmitter: “**062596**” directly followed by the **OSD/i+** button to switch to SAM (do not allow the display to time out between entries while keying the sequence).

How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or on the television set.
If you switch the television set “off” by removing the mains (i.e., unplugging the television), the television set will remain in SDM when mains is re-applied, and the error buffer is not cleared. The error buffer will only be cleared when the “clear” command is used in the SAM menu.

Note:

- If the TV is switched “off” by a power interrupt while in SDM, the TV will show up in the last status of SDM menu as soon as the power is supplied again. The error buffer will not be cleared.
- In case the set is in Factory mode by accident (with “F” displayed on screen), by pressing and hold “VOL-“ and “CH-” together should leave Factory mode.

5.2.3 Service Alignment Mode (SAM)

Purpose
- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

Specifications
- Operation hours counter (maximum five digits displayed).
- Software version, error codes, and option settings display.
- Error buffer clearing.
- Option settings.
- Software alignments (Tuner, White Tone, and Audio).
- NVM Editor.
- ComPair Mode switching.
- Set the screen mode to full screen (all contents on screen are viewable).

How to Activate
To activate SAM, use one of the following methods:
- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the **OSD/ STATUS/INFO/i+** button (it depends on region which button is present on the RC). Do not allow the display to time out between entries while keying the sequence.
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.

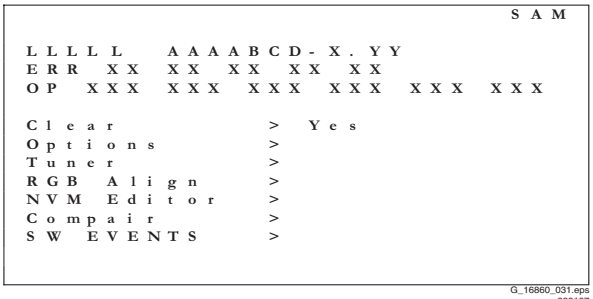


Figure 5-4 SAM menu

Menu explanation:
1. **LLLLL.** This represents the run timer. The run timer counts normal operation hours, but does not count Stand-by hours.
2. **AAAABCD-X.YY.** See paragraph "Service Modes" -> "General" -> "Software Identification, Version, and Cluster" for the SW name definition.
3. **SAM.** Indication of the Service Alignment Mode.
4. **ERR (ERRor buffer).** Shows all errors detected since the last time the buffer was erased. Five errors possible.
5. **OP (Option Bytes).** Used to read-out the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
6. **Clear.** Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
7. **Options.** Used to set the option bits. See "Options" in the "Alignments" chapter for a detailed description.
8. **Tuner.** Used to align the tuner. See "Tuner" in the "Alignments" chapter for a detailed description.
9. **RGB Align.** Used to align the White Tone. See "White Tone" in the "Alignments" chapter for a detailed description.
10. **NVM Editor.** Can be used to change the NVM data in the television set. See also paragraph "Fault Finding and Repair Tips" further on.
11. **ComPalr.** Can be used to switch the television to "In Application Programming" mode (IAP), for software uploading via ComPair. Read paragraph "Service Tools" -> "ComPair". **Caution:** When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.
12. **SW Events.** Only to be used by development to monitor SW behaviour during stress test.

How to Navigate
- In the SAM menu, select menu items with the MENU UP/ DOWN keys on the remote control transmitter. The selected item will be indicated. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
  - Activate the selected menu item.
  - Change the value of the selected menu item.
  - Activate the selected sub menu.
- When you press the MENU button twice while in top level SAM, the set will switch to the normal user menu (with the SAM mode still active in the background). To return to the SAM menu press the MENU button.
- Command "OSD/i+" key from the user remote will toggle the OSD "on/off" with "SAM" OSD remaining always "on".
- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the **MENU** button to switch to SDM (do not allow the display to time out between entries while keying the sequence).

How to Store SAM Settings
To store the settings changed in SAM mode (except the OPTIONS settings), leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set.

How to Exit
Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.

Note:
- When the TV is switched "off" by a power interrupt while in SAM, the TV will show up in "normal operation mode" as soon as the power is supplied again. The error buffer will not be cleared.
- In case the set is in Factory mode by accident (with "F" displayed on screen), by pressing and hold "VOL-" and "CH-" together should leave Factory mode.

5.2.4 Customer Service Mode (CSM)

Purpose

The Customer Service Mode shows error codes and information on the TV's operation settings. A call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps them to diagnose problems and failures in the TV before making a service call. The CSM is a read-only mode; therefore, modifications are not possible in this mode.

Specifications

- Ignore "Service unfriendly modes".
- Line number for every line (to make CSM language independent).
- Set the screen mode to full screen (all contents on screen are viewable).
- After leaving the Customer Service Mode, the original settings are restored.
- Possibility to use "CH+" or "CH-" for channel surfing, or enter the specific channel number on the RC.

How to Activate

To activate CSM, press the following key sequence on the remote control transmitter: "**123654**" (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:

```
                                                    CSM
1    MODEL  : 32PFL5522D/10
2    PROD S/N: AG1A0712123456
3    SW ID  : LC71EL1-1.xx
4    OP     : XXX XXX XXX XXX XXX XXX XXX
5    CODES  : XX XX XX XX XX
6    SSB    : 3139 127 12341
7    NVM    : XXXXXXXX
8    Flash Data: XX.XX.XX.XX
9    LIFE TIMER: LLLLL
10   TUNER  : WEAK/GOOD/STRONG
11   SYSTEM: PAL/NTSC/SECAM
12   SOUND  : MONO/STEREO/NICAM
13   HDAU   : YES/NO
14   FORMAT: XXXXXXXX
```

G_16860_032.eps
210207

Figure 5-5 CSM menu (example)

Menu Explanation

1. **MODEL.** Type number, e.g. 42PFL7662/12. (*)
2. **PROD S/N.** Product serial no., e.g. SV1A0701000008. (*)
3. **SW ID.** Software cluster and version is displayed.
4. **OP.** Option code information.
5. CODES. Error buffer contents.
6. **SSB.** Indication of the SSB factory ID (= 12nc). (*)
7. **NVM.** The NVM software version no.
8. **Flash Data.** PQ (picture quality) and AQ (audio quality) data version. This is a sub set of the main SW.
9. **LIFE TIMER.** Operating hours indication.
10. **TUNER.** Indicates the tuner signal condition: "Weak" when signal falls below threshold value, "Medium" when signal is at mid-range, and "Strong" when signal falls above threshold value.
11. **SYSTEM.** Gives information about the video system of the selected transmitter (PAL/SECAM/NTSC).
12. **SOUND.** Gives information about the audio system of the selected transmitter (MONO/STEREO/NICAM).
13. **HDAU.** HDMI audio stream detection. "YES" means audio stream detected. "NO" means no audio stream present. Only displayed when HDMI source is selected.
14. **FORMAT.** Gives information about the video format of the selected transmitter (480i/480p/720p/1080i).
15. **HD SW ID.** Software version of the 1080p full HD module (when present).
16. **Reserved.**
17. **Reserved.**
18. **Reserved.**

(*) If an NVM IC is replaced or initialised, the Model Number, Serial Number, and SSB Code Number must be re-written to the NVM. ComPair will foresee in a possibility to do this.

How to Exit

To exit CSM, use one of the following methods:

- Press the MENU button twice, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

5.2.5 Digital Customer Service Mode (DCSM)

Purpose

The Digital Customer Service Mode shows error codes and information on the IBO Zapper module (DVB reception part) operation settings. The call centre can instruct the customer to activate DCSM by telephone and read off the information displayed. This helps the call centre to diagnose problems and failures in the IBO Zapper module before making a service call.The DCSM is a read-only mode; therefore, modifications are not possible in this mode.

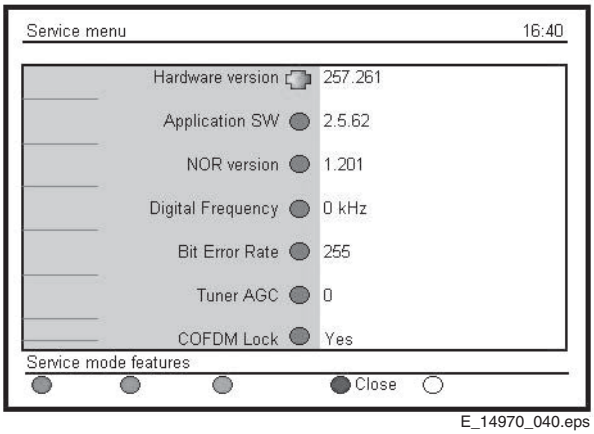
How to Activate

To activate the DCSM, put the television in its digital mode (via the “A/D” button on the remote control).

1. Press the “Digital Menu” button on the remote control to activate the digital user menu (called “Setup”).
2. Activate the “Information” sub menu (via the “down” and “right” cursor buttons).
3. In the “Information” sub menu, press the following key sequence on the remote control to activate the DCSM: “**GREEN RED YELLOW 9 7 5 9**” (do not allow the display to time out between entries while keying this sequence). Then, the “Service menu” will appear (see figures below).

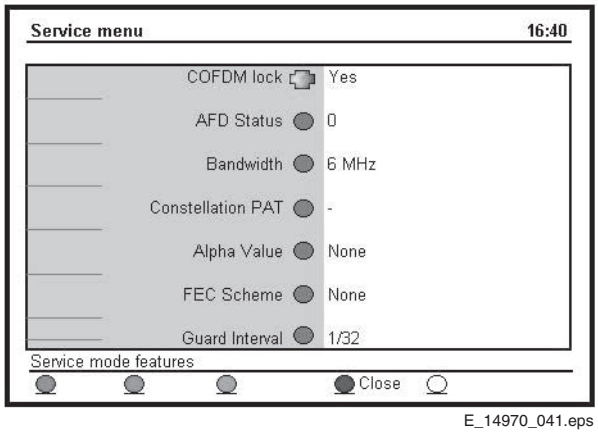
Alternative method to activate DCSM: press key sequence “**123654**” on the remote control transmitter while in digital mode (do not allow the display to time out between entries while keying the sequence). Then, the “Service menu” will appear (see figures below).

Menu explanation



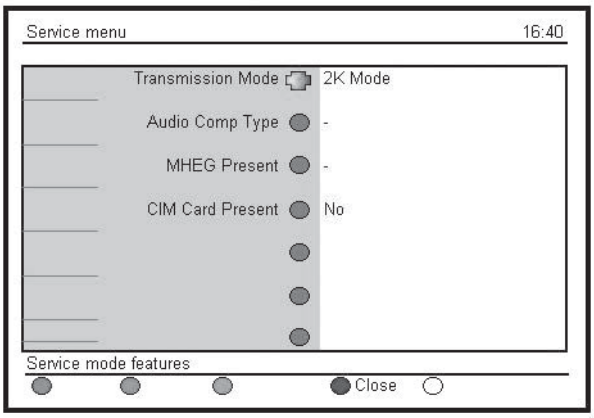
E_14970_040.eps
090904

Figure 5-6 DCSM menu - 1



E_14970_041.eps
100904

Figure 5-7 DCSM menu - 2



E_14970_042.eps
090904

Figure 5-8 DCSM menu - 3

1. **Hardware version:** This indicates the version of the IBO Zapper module hardware.
2. **Application SW:** The application software version.
3. **NOR Version:** The NOR Flash image software version
4. **Digital Frequency:** The digital frequency that the set is tuned to.
5. **Bit Error Rate:** The error rate measured before the error correction algorithm circuitry. (this value gives an impression of the received signal)
6. **Tuner AGC:** Tuner AGC value.
7. **COFDM Lock:** Indication if COFDM decoder is locked.
8. **AFD Status:** Status of the Active Picture Format Descriptor.
9. **Terrestrial Delivery System Parameters:**
   - **Bandwidth:** Bandwidth of the received signal.
   - **Constellation Pattern:** Displays the signal constellation.
   - **Alpha Value:** Displays the Alpha Value.
   - **FEC Scheme:** Displays the Forward Error Correcting Scheme
   - **Guard Interval:** Displays the value for the Guard Interval.
   - **Transmission Mode:** Displays the Transmission Mode.
10. **Audio Comp Type:** Type of detected audio stream.
11. **MHEG Present:** Indicates if MHEG is present or not.
12. **CIM Card Present:** Indicates if CIM card is present or not.

How to exit

Press the **BLUE** button on the Remote Control to exit DCSM.

5.3 Service Tools

5.3.1 ComPair

Introduction
ComPair (Computer Aided Repair) is a Service tool for Philips Consumer Electronics products. and offers the following:
1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short and effective way.
2. ComPair allows very detailed diagnostics and is therefore capable of accurately indicating problem areas. You do not have to know anything about I2C or UART commands yourself, because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the uP is working) and all repair information is directly available.
4. ComPair features TV software upgrade possibilities.

Specifications
ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The (new) ComPair II interface box is connected **to the PC** via an USB cable. For the TV chassis, the ComPair interface box and the TV communicate via a bi-directional cable via the service connector(s).
The ComPair fault finding program is able to determine the problem of the defective television, by a combination of automatic diagnostics and an interactive question/answer procedure.

How to Connect
This is described in the chassis fault finding database in ComPair.

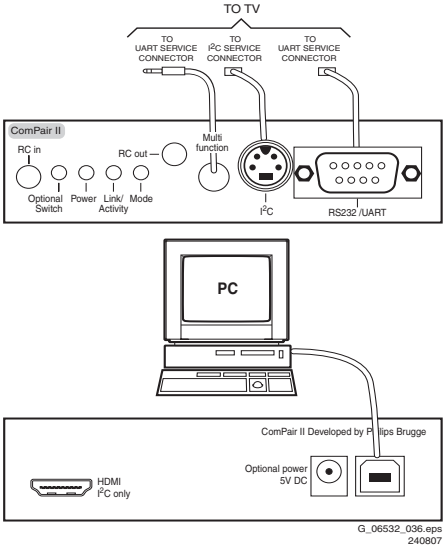


Figure 5-9 ComPair II interface connection

Caution: It is compulsory to connect the TV to the PC as shown in the picture above (with the ComPair interface in between), as the ComPair interface acts as a level shifter. If one connects the TV directly to the PC (via UART), ICs will be blown!

How to Order
ComPair II order codes:
- ComPair II interface: 3122 785 91020.
- ComPair32 CD (update): 3122 785 60160.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

Note: If you encounter any problems, contact your local support desk

5.3.2 LVDS Tool

Introduction
This Service tool (also called “ComPair Assistant 1“) may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) **or** the display of a Flat TV is defective. Thus to determine if LVDS, RGB, and sync signals are okay.

When operating, the tool will show a small (scaled) picture on a VGA monitor. Due to a limited memory capacity, it is not possible to increase the size when processing high-resolution LVDS signals (> 1280x960). Below this resolution, or when a DVI monitor is used, the displayed picture will be full size.

How to Connect
Connections are explained in the user manual, which is packed with the tool. The LVDS cables included in the package cover most chassis. For some chassis, a separate cable must be ordered.

Note: To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version >= 2.2.05).
For every TV type number and screen size, one must choose the proper settings via ComPair. The ComPair file will be updated regularly with new introduced chassis information.

How to Order
- LVDS tool (incl. two LVDS cables: 31p and 20p, covering chassis BJx, EJx, FJx and LC4.1): 3122 785 90671.
- LVDS tool Service Manual: 3122 785 00810.
- LVDS cable 20p/DF -> 20p/DF (standard with tool): 3122 785 90731.
- LVDS cable 31p/FI -> 31p/FI (standard with tool): 3122 785 90662.

For other chassis, a separate LVDS cable must be ordered. Refer to table “LVDS cable order number” for an overview of all available cables.

Table 5-2 LVDS cable order number

Chassis	LVDS cable order number	Remarks
BJ2.4	3122 785 90662 [1]	
BJ2.5	3122 785 90662 [1]	
BJ3.0	3122 785 90662 [1]	
BJ3.1	3122 785 90662 [1]	
EJ2.0	3122 785 90662 [1]	
EJ3.0	3122 785 90662 [1]	
EL1.1	3122 785 90662 [1] / 3122 785 90821	
FJ3.0	3122 785 90662 [1]	
FTL2.4	3122 785 90662 [1, 2]	
LC4.1	3122 785 90731 [1] / 3122 785 90851	
LC4.3	3122 785 90821	
LC4.31	3122 785 90821	
LC4.41	3122 785 90662 [1, 2] / 3122 785 90851	Only for 26 & 32” sets.
LC4.8	3122 785 90662 [1, 2] / 3122 785 90851	
LC4.9	3122 785 90662 [1, 2] / 3122 785 90851	MFD variant only.
LC7.x	t.b.d.	
JL2.1	3122 785 90861	

Notes:
1. Included in LVDS tool package.
2. Pins “27” and “28” must be grounded or not connected.

5.4 Error Codes

5.4.1 Introduction

Error codes are required to indicate failures in the TV set. In principle a unique error code is available for every:
- Activated protection.
- Failing I2C device.
- General I2C error.
- SDRAM failure.

The last five errors, stored in the NVM, are shown in the Service menu's. This is called the error buffer.
The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.
An error will be added to the buffer if this error differs from any error in the buffer. The last found error is displayed on the left.
An error with a designated error code may **never** lead to a deadlock situation. This means that it must always be diagnosable (e.g. error buffer via OSD or blinking LED procedure, ComPair to read from the NVM).
In case a failure identified by an error code automatically results in other error codes (cause and effect), only the error code of the MAIN failure is displayed.

Example: In case of a failure of the I2C bus (CAUSE), the error code for a "General I2C failure" and "Protection errors" is displayed. The error codes for the single devices (EFFECT) is not displayed. All error codes are stored in the same error buffer (TV's NVM) except when the NVM itself is defective.

5.4.2 How to Read the Error Buffer

You can read the error buffer in 3 ways:
- On screen via the SAM/SDM/CSM (if you have a picture). Example:
  - ERROR: 0 0 0 0 0 : No errors detected
  - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
  - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See "The Blinking LED Procedure".
- Via ComPair.

5.4.3 Error Codes

In case of non-intermittent faults, write down the errors present in the error buffer and clear the error buffer before you begin the repair. This ensures that old error codes are no longer present.
If possible, check the entire contents of the error buffer. In some situations, an error code is only the result of another error and not the actual cause of the problem (for example, a fault in the protection detection circuitry can also lead to a protection).

Table 5-3 Error code overview

Error code[1)]	Description	Item nr.	Remarks
0	No error.		
1	DC Protection of speakers.		
2	+12V protection error.		12V missing or "low".
3	Reserved.		
4	General I2C error.		note 2
5	Trident Video Processor communication error.	7202	When Trident IC is defective, error 10 and 14 might also be reported. Trident communicates via parallel bus, not via the I2C bus. The I2C bus of Trident is only used in ComPair mode.
6	I2C error while communicating with the NVM.	7315	The TV will not start-up due to critical data not available from the NVM, but the LED will blink the error code.
7	I2C error while communicating with the Tuner.	1101	
8	I2C error while communicating with the IF Demodulator.	7113	
9	I2C error communicating with the Sound Processor.	7411	
10	SDRAM defective.	7204	
11	I2C error while communicating with the HDMI IC.	7817	
12	I2C error while communicating with the MOJO PNX8314.	7G00	if applicable
13	DVB HW communication error.	7F01, 7K00, 7G00	if applicable
14	SDRAM defective.	7205	
15	Reserved.		
16	Reserved.		
17	Reserved.		
18	I2C error while communicating with the iBoard processor.		if applicable
19	I2C error while communication with 1080p bolt-on module.		if applicable

Notes
1. Some of the error codes reported are depending on the option code configurations.
2. This error means: no I2C device is responding to the particular I2C bus. Possible causes: SCL/SDA shorted to GND, SCL shorted to SDA, or SCL/SDA open (at uP pin). The internal bus of the Trident platform should not cause the entire system to halt as such an error can be reported.

5.4.4 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:
- By using the CLEAR command in the SAM menu:
  - To enter SAM, press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD/i+ button (do not allow the display to time out between entries while keying the sequence).
  - Make sure the menu item CLEAR is selected. Use the MENU UP/DOWN buttons, if necessary.
  - Press the MENU RIGHT button to clear the error buffer. The text on the right side of the "CLEAR" line will change from "CLEAR?" to "CLEARED"
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

Note: If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

5.5 The Blinking LED Procedure

5.5.1 Introduction

The software is capable of identifying different kinds of errors. Because it is possible that more than one error can occur over time, an error buffer is available, which is capable of storing the last five errors that occurred. This is useful if the OSD is not working properly.

Errors can also be displayed by the blinking LED procedure. The method is to repeatedly let the front LED pulse with as many pulses as the error code number, followed by a period of 1.5 seconds in which the LED is “off”. Then this sequence is repeated.

Example (1): error code 4 will result in four times the sequence LED “on” for 0.25 seconds / LED “off” for 0.25 seconds. After this sequence, the LED will be “off” for 1.5 seconds. Any RC5 command terminates the sequence. Error code LED blinking is in red colour.

Example (2): the content of the error buffer is “**12 9 6 0 0**” After entering SDM, the following occurs:
- 1 long blink of 5 seconds to start the sequence,
- 12 short blinks followed by a pause of 1.5 seconds,
- 9 short blinks followed by a pause of 1.5 seconds,
- 6 short blinks followed by a pause of 1.5 seconds,
- 1 long blink of 1.5 seconds to finish the sequence,
- The sequence starts again with 12 short blinks.

5.5.2 Displaying the Entire Error Buffer

Additionally, the entire error buffer is displayed when Service Mode “SDM” is entered. In case the TV set is in protection or Stand-by: The blinking LED procedure sequence (as in SDM-mode in normal operation) must be triggered by the following RC sequence: “**MUTE” “062500” “OK**”.
In order to avoid confusion with RC5 signal reception blinking, this blinking procedure is terminated when a RC5 command is received.

To erase the error buffer, the RC command “**MUTE” “062599 “OK**” can be used.

5.6 Software Upgrading

In this chassis, three SW “stacks” are used:
- TV mains SW (processor and processor NVM).
- Digital TV SW (IBO Zapper).
- 1080p Panel SW (if present, depends on execution).

5.6.1 TV Main SW Upgrade

For instructions on how to upgrade the TV Main software, refer to ComPair.

5.6.2 “Digital TV” Software Upgrade

How to Upgrade Philips “Digital TV” Software (IBO Zapper):

Preparation of the Memory Device for Software Upgrade
For the procedure you will require:
1. A personal computer with web browsing capability.
2. An archive utility that supports the ZIP-format (e.g. Winzip for Windows).
3. A CompactFlash PC Card Adapter (Type II).
4. A CompactFlash (Type I) portable memory card for insertion into the PC Card Adapter. Philips recommends using Compact Flash (CF) portable memory cards with their respective PC Card Adapters (Sandisk or Kingston) with memory sizes of up to 256MB. Philips does not guarantee that other types of portable memory cards and their respective PC Card Adapters, including multi-card PC Card Adapters work on Philips Digital TV.
   Note: Only FAT16-formatted portable memory is supported. NTFS & FAT32 are not supported.

Copying of Software Image Files to the Flash Device
Copy the appropriate “FCL.img” and “IBOZ.img” to the root directory of the flash device.

Verifying the Current Version of the TV Software
Before you start the software upgrade procedure, it is advised to check what the current TV software is. The current TV software version can be seen in the “System software” menu.
1. First press the “A/D” key and then the “DIGITAL MENU” key on the remote controller to access the “Setup” menu.
2. Access the “Information” menu.
3. Access the “Current software version” menu.

Example:
The menu shows “IdtvZapper_HW260.256_SW2.0.24”. This means that the hardware version is “260.256” and the software version is “2.0.24”.

Figure 5-10 Current software version

Software Upgrade Procedure

1. Power ON your TV with the power switch at the side of the TV. Put your TV ON by using the remote controller if the TV is in Stand-by.
2. Make sure that it is in “Digital” mode (via “A/D” button).
3. Make sure that your TV is not in Stand-by. Power OFF your TV **with the power switch of the TV**.
4. Remove the Conditional Access Module (if any) from the CI-slot.
5. Insert the PC Card Adapter with the portable memory card containing the software upgrade files.
6. Switch ON your TV with the power switch at the side of the TV.
7. At start-up, the TV will scan the CI slot until it finds the update content. The TV will automatically go to the upgrade mode. After a few seconds it will display the status of the upgrade procedure.

Warnings:
Do NOT remove the memory card or the PC card adapter during the software upgrade procedure.
In case of a power drop during the upgrade procedure, don’t remove the portable memory from the TV. The TV will continue the upgrade as soon as the power comes back.

Example: At start-up of the TV, the current software is erased.

Figure 5-11 Erasure of the software

If the erasure is successful, the programming will start.

Figure 5-12 Programming of the software

Example: The programming is completed when the progress bar reaches the 100% mark.

Figure 5-13 Programming complete

The TV will reset and the screen will go blank, after a few seconds a dialogue box will occur to inform you that the current module inserted in the CI slot is not recognized. This is normal as the slot only recognizes a Conditional Access Module during normal operation.

Example: The following dialogue box will appear after the TV is upgraded successfully:

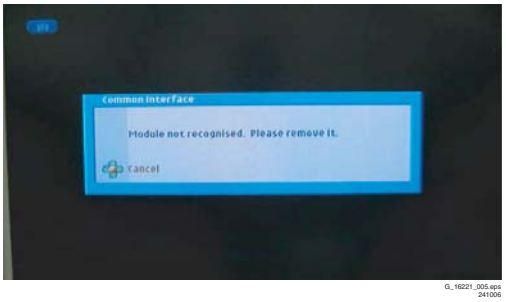


Figure 5-14 Upgrade ready

When the software upgrade has been successful, switch OFF the TV, remove the PC Card Adapter, and restart the TV with the Power switch at the side of the TV.
The TV will now start up with the new software.

Verifying that the Software Has Been Upgraded Successfully

Verify that the software is upgraded to the new version by following the procedure outlined in the section “Verifying the current version of the TV software”.

5.6.3 1080p Panel SW Upgrade

To upgrade the SW on the 1080p panel:

1. Remove the back cover of the TV.
2. Connect the ComPair UART cable to the UART connector on the 1080p panel (refer to next figure).
3. Follow the instructions in ComPair.

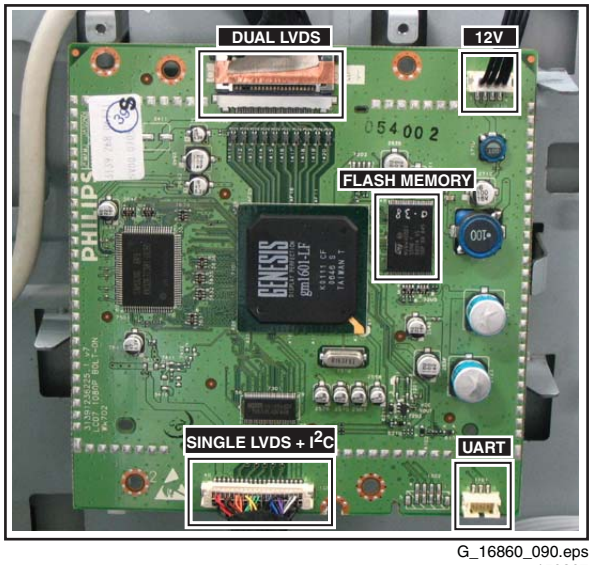


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Figure 5-15 1080p connection overview

5.7 Fault Finding and Repair Tips

Notes:
- It is assumed that the components are mounted correctly with correct values and no bad solder joints.
- Before any fault finding actions, check if the correct options are set.

5.7.1 NVM Editor

In some cases, it can be convenient if one directly can change the NVM contents. This can be done with the “NVM Editor” in SAM mode. With this option, single bytes can be changed.

Caution:
- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- Always write down the existing NVM settings, before changing the settings. This will enable you to return to the original settings, if the new settings turn out to be incorrect.

Table 5-4 NVM editor overview

	Hex	Dec	Description
.ADR	0x000A	10	Existing value
.VAL	0x0000	0	New value
.Store	Store?		

5.7.2 Load Default NVM Values

It is possible to download default values automatically into the NVM in case a blank NVM is placed or when the NVM first 20 address contents are "FF". After the default values are downloaded, it is possible to start-up and to start aligning the TV set. To initiate a forced default download the following action has to be performed:
1. Switch “off” the TV set with the mains cord disconnected from the wall outlet (it does not matter if this is from "Stand-by" or "Off" situation).
2. Short-circuit the SDM jumpers on the SSB (keep short circuited).
3. Press “P+” or “CH+” on the local keyboard (and keep it pressed).
4. Reconnect the mains supply to the wall outlet.
5. Release the “P+” or “CH+” when the set is “on” or blue LED is blinking.

When the downloading has completed successfully, the set should be into Stand-by, i.e. red LED on.

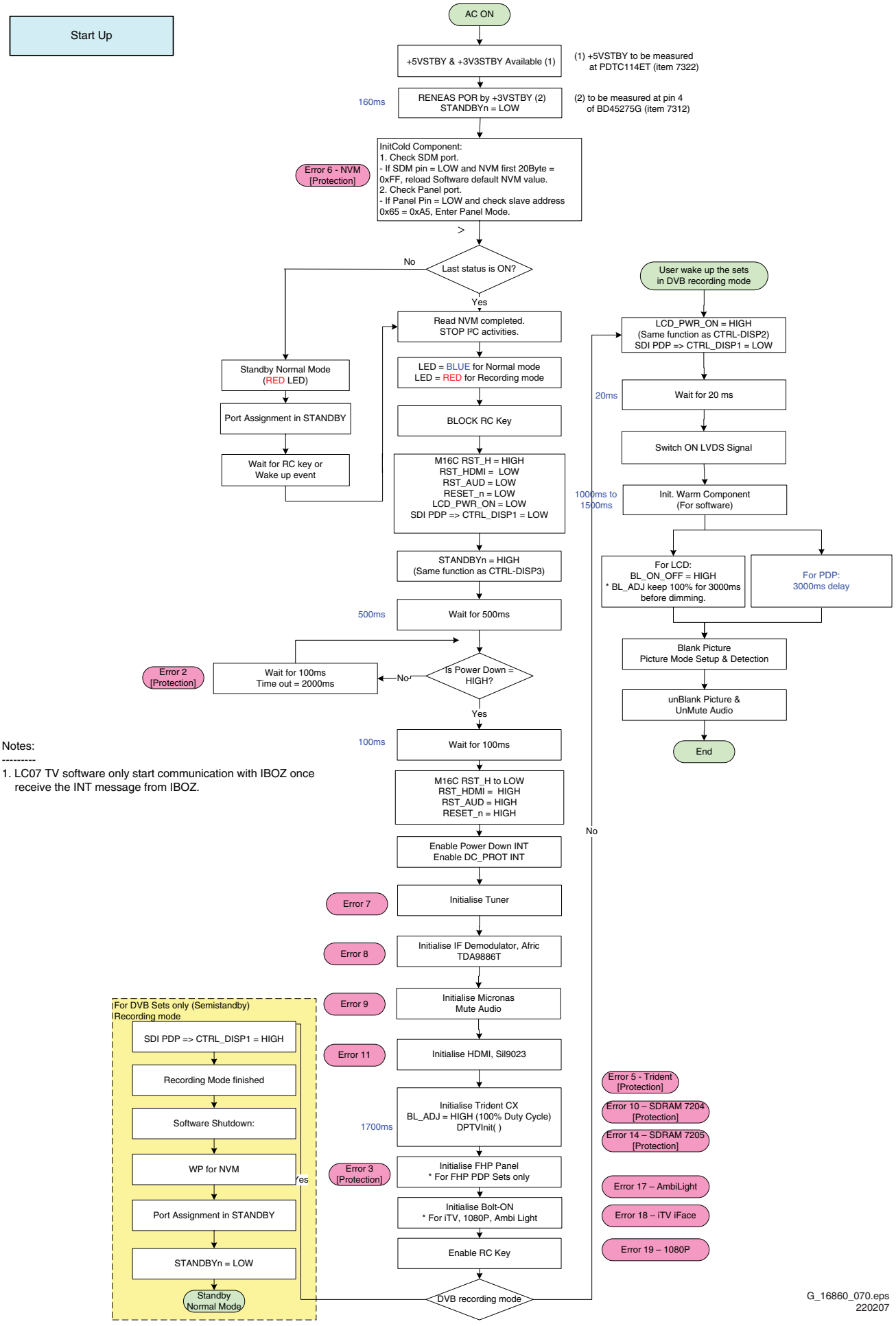
Alternative method (1):
1. Go to SAM.
2. Select NVM Editor.
3. Select ADR (address) to 1 (dec).
4. Change the VAL (value) to 170 (dec).
5. Store the value.
6. Do a hard reset to make sure new default values took place.

Alternative method (2):
It is also possible to upload the default values to the NVM with ComPair in case the SW is changed, the NVM is replaced with a new (empty) one, or when the NVM content is corrupted. After replacing an EEPROM (or with a defective/no EEPROM), default settings should be used to enable the set to start-up and allow the Service Default Mode and Service Alignment Mode to be accessed.

5.7.3 Start-up/Shut-down Flowcharts

Important note for DVB sets:
- When you put a DVB set into Stand-by mode **with an RC**, the set will go to “Semi Stand-by” mode for 5 minutes. This, to facilitate “Off the Air download” (OAD). If there is no activity within these 5 minutes, the set will switch to Stand-by mode. In “Semi Stand-by” mode, the LCD backlight and Audio Amplifier are turned “off” but other circuits still work as normal. The customer might think the set is in Stand-by. However, in real Stand-by mode, only the uP and the NVM are alive and all other circuits are switched “off”.
- If you press t**he mains switch** at the local key board in a DVB set, the set will switch to Stand-by mode.

On the next pages you will find start-up and shut-down flowcharts, which might be helpful during fault finding. **Please note** that some events are only related to PDP sets, and therefore not applicable to this LCD chassis.



Notes:
---
1. LC07 TV software only start communication with IBOZ once receive the INT message from IBOZ.

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Figure 5-16 Start-up flowchart

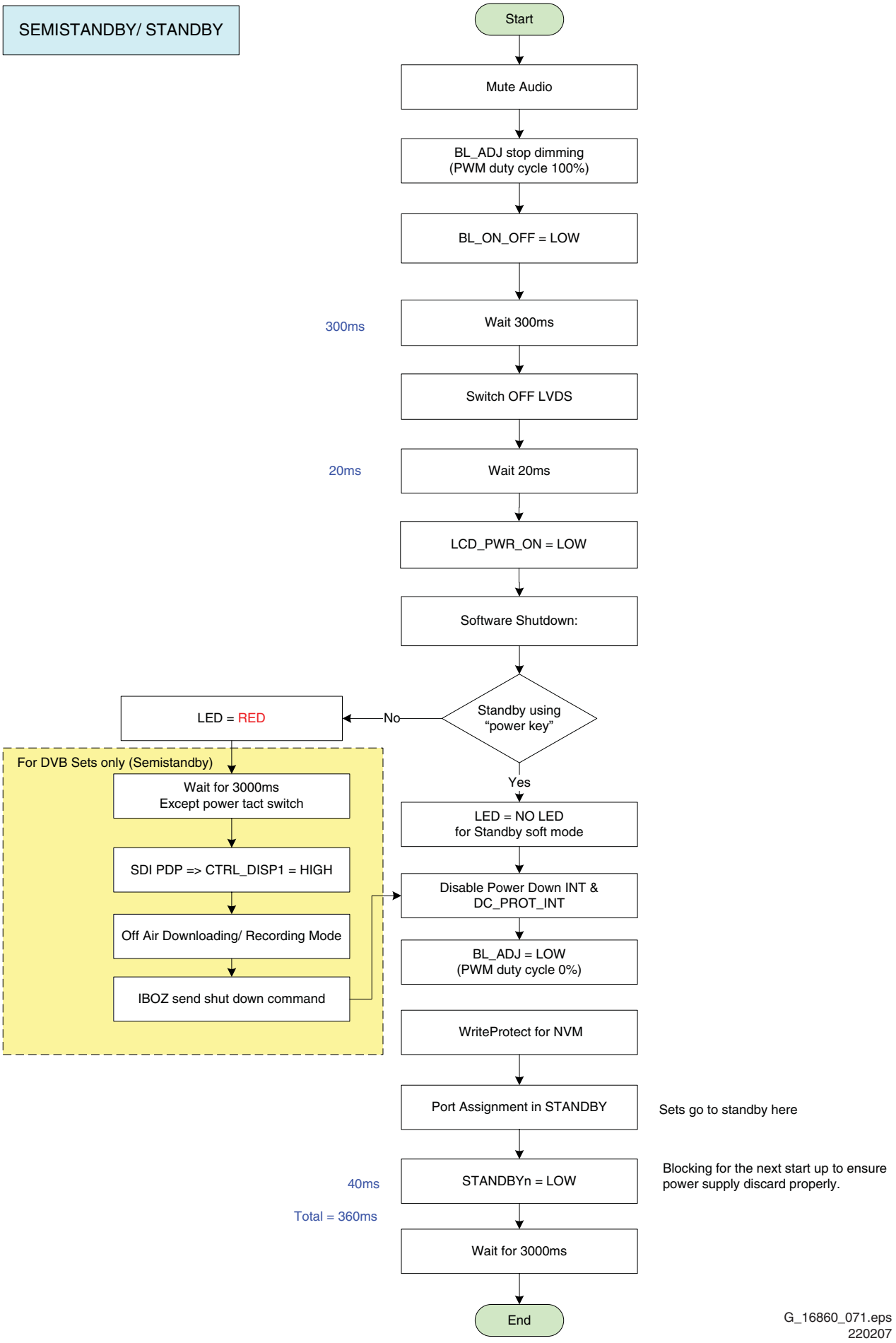
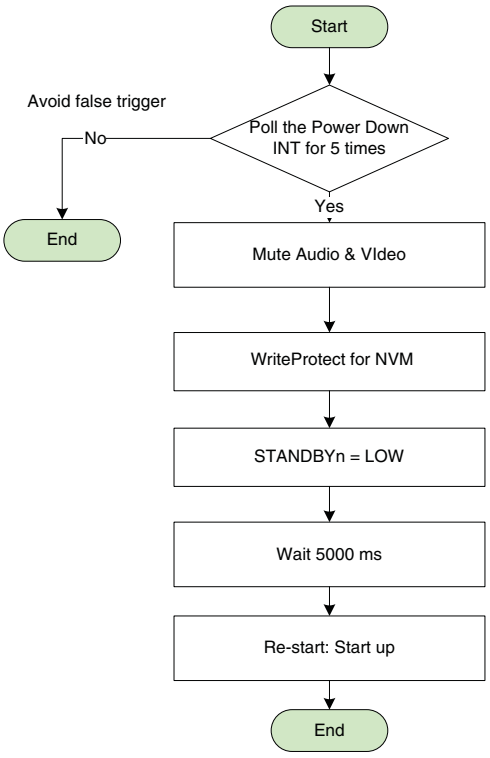


Figure 5-17 Semi Stand-by/Stand-by flowchart

Power Down INT:
AC OFF or Transient INT



Notes:
1. Power Down INT will be based on fall edge triggering
2. +3V3STBY will stay for 15ms, software must perform WriteProtect for NVM within 15ms.

DC_PROT INT

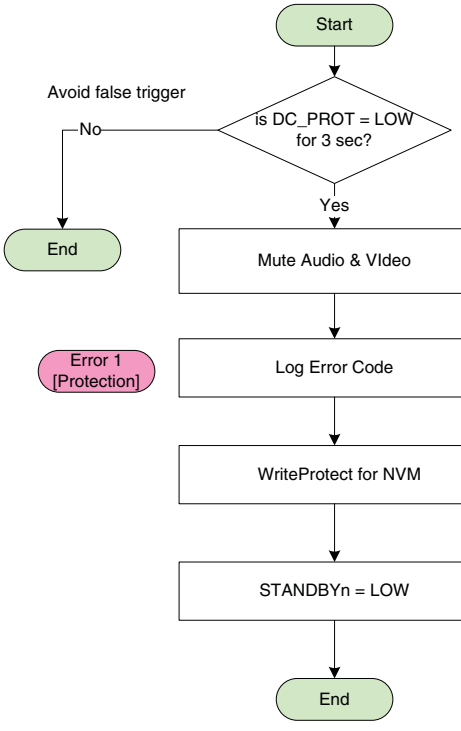


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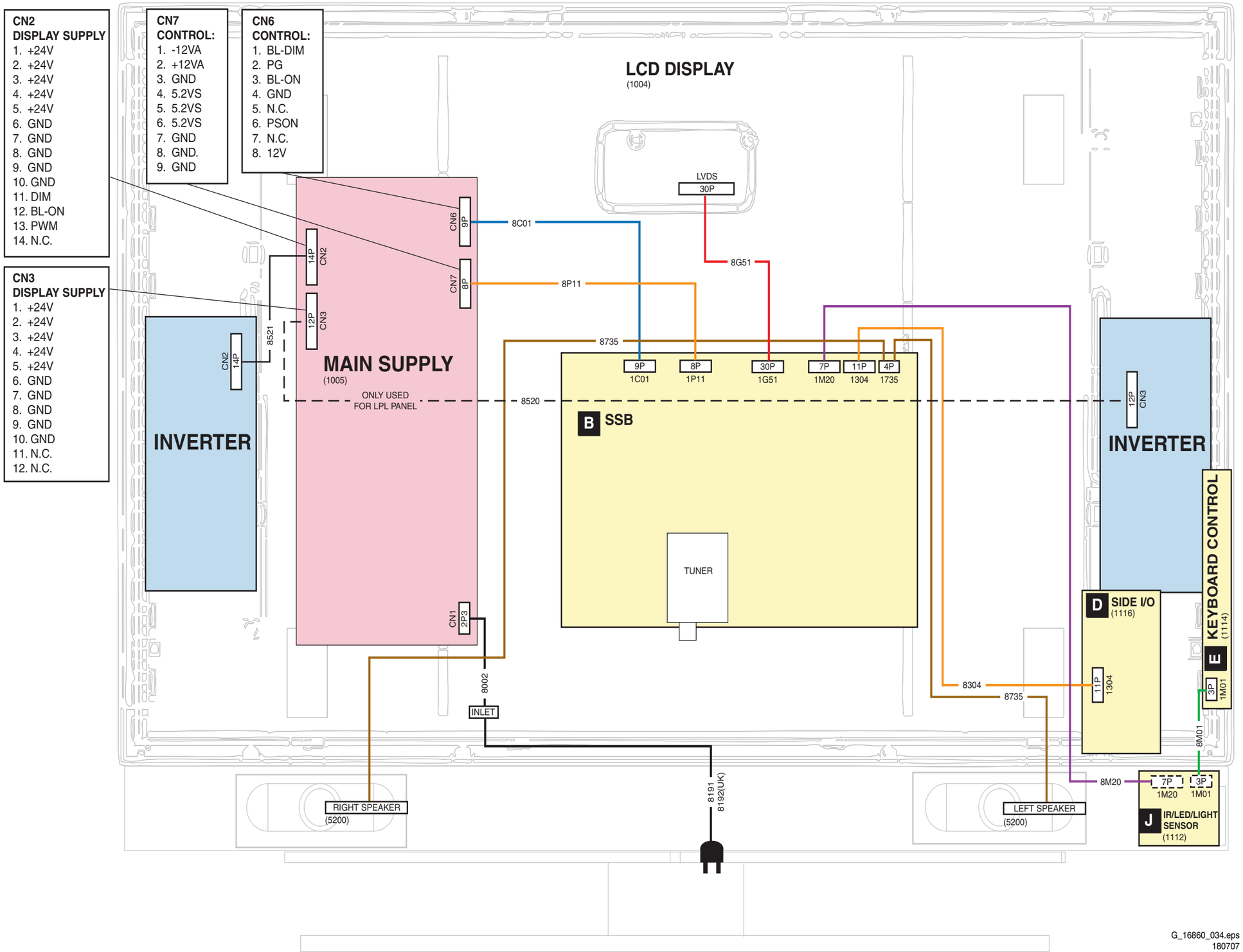
Figure 5-18 Power Down & DC_PROT flowchart

6. Block Diagrams, Test Point Overviews, and Waveforms

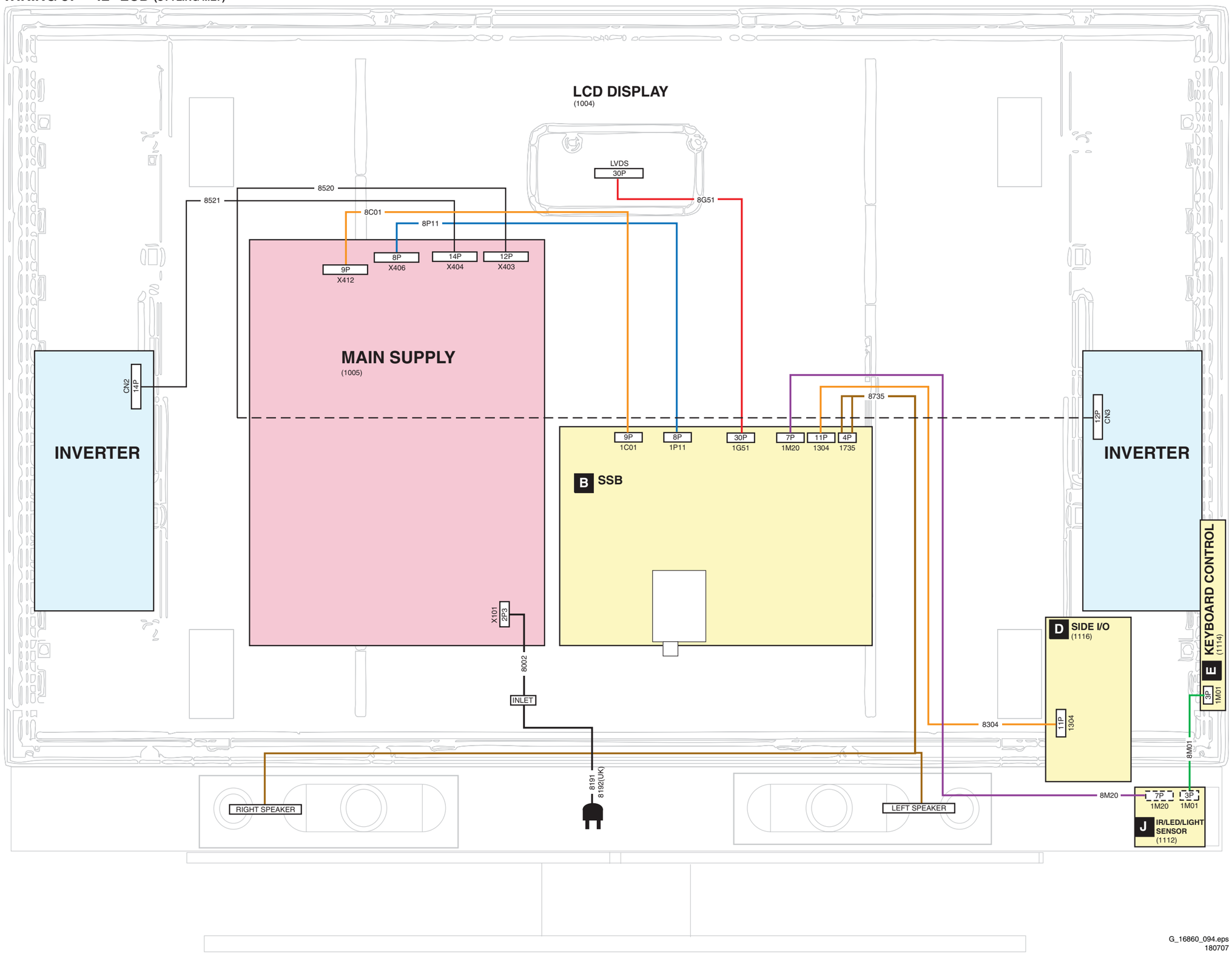
Wiring Diagram 26" & 32"

WIRING 26"- 32" LCD (STYLING ME7)



Wiring Diagram 37” & 42”

WIRING 37”- 42” LCD (STYLING ME7)



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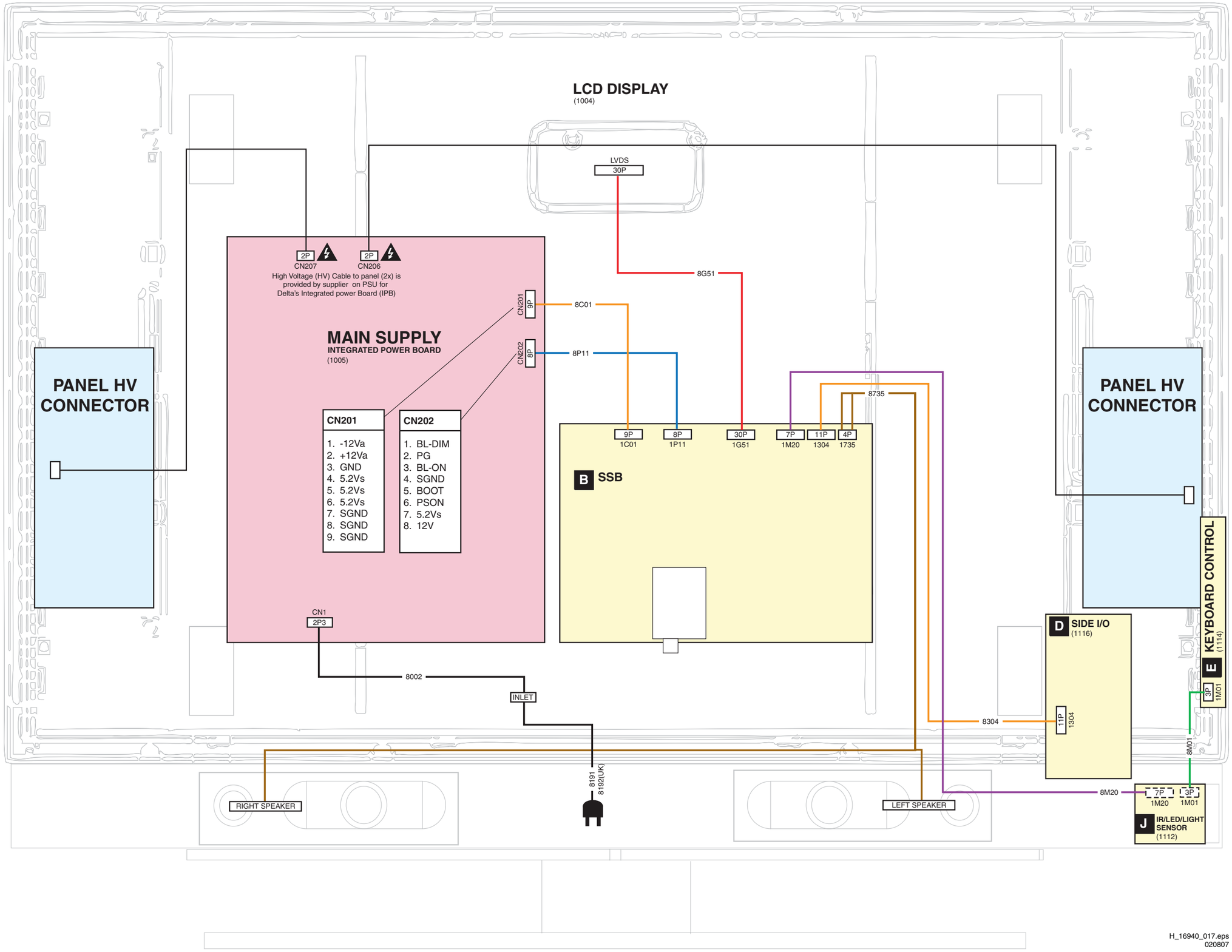
Wiring Diagram 37” & 42” (ME7 Promo Set)

WIRING 37”- 42” LCD (STYLING ME7 PROMO SET)



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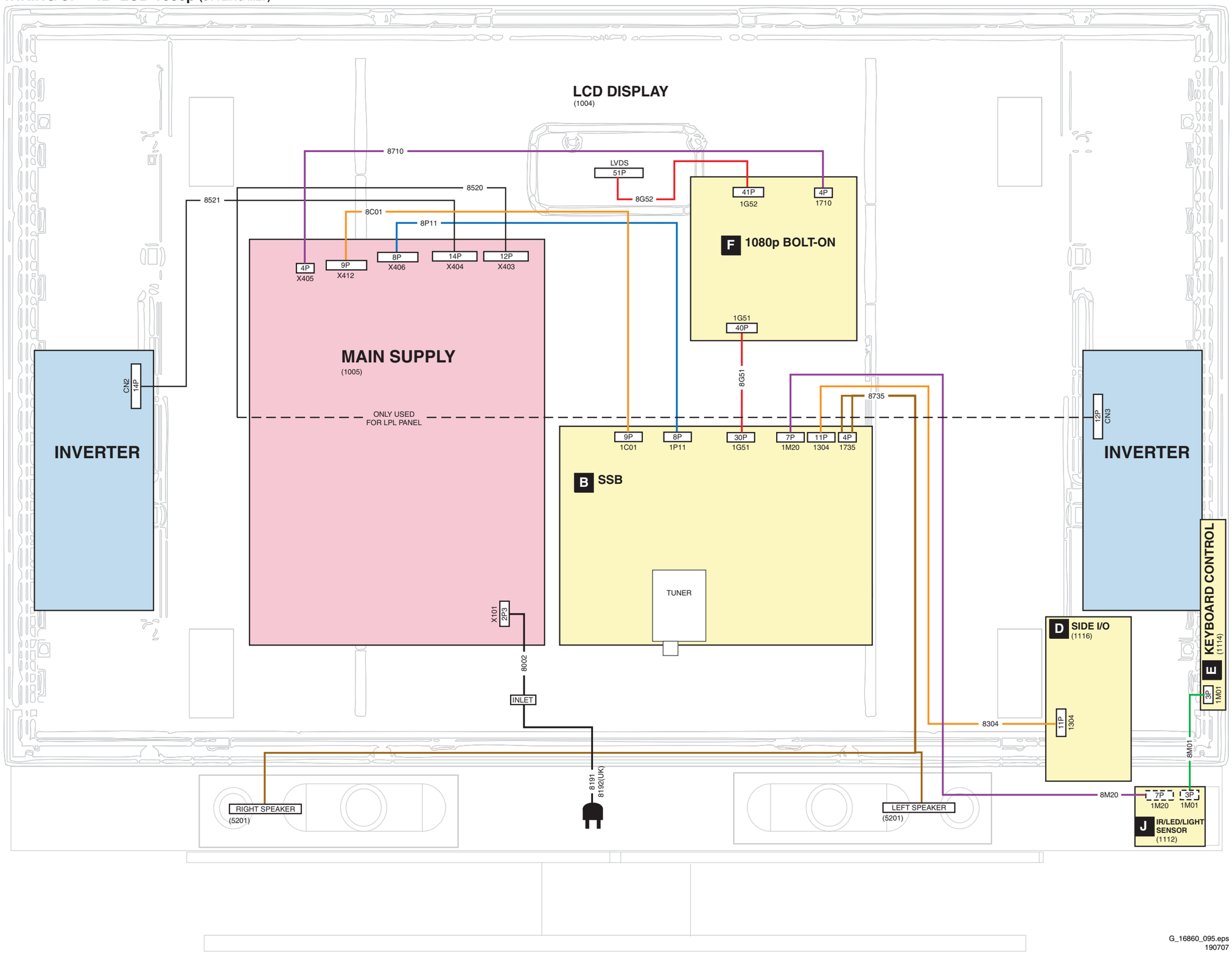
Wiring Diagram 42” 1080p

WIRING 37”- 42” LCD 1080p (STYLING ME7)



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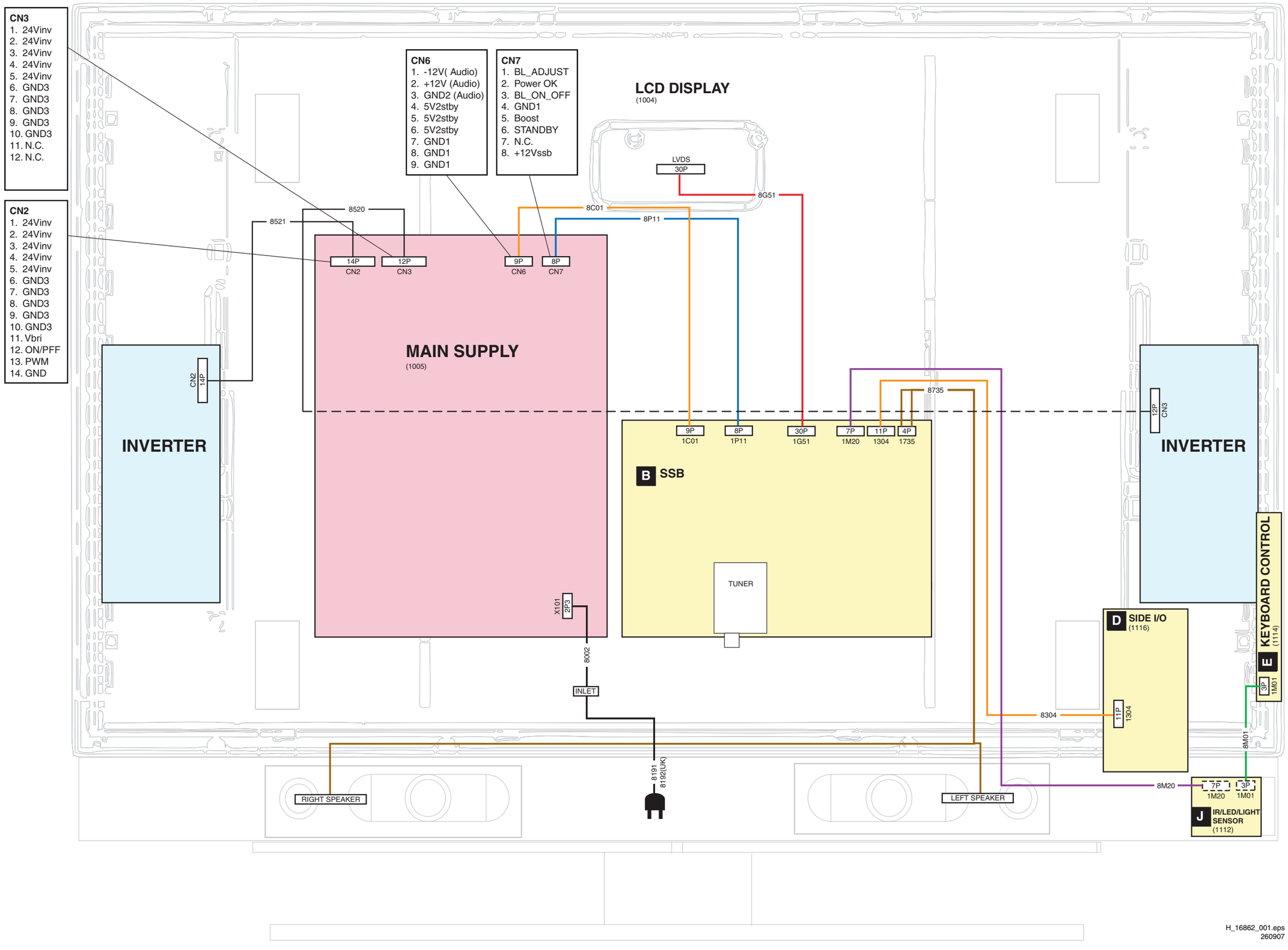
Wiring Diagram 47” (ME7)

WIRING 47” LCD (STYLING ME7)



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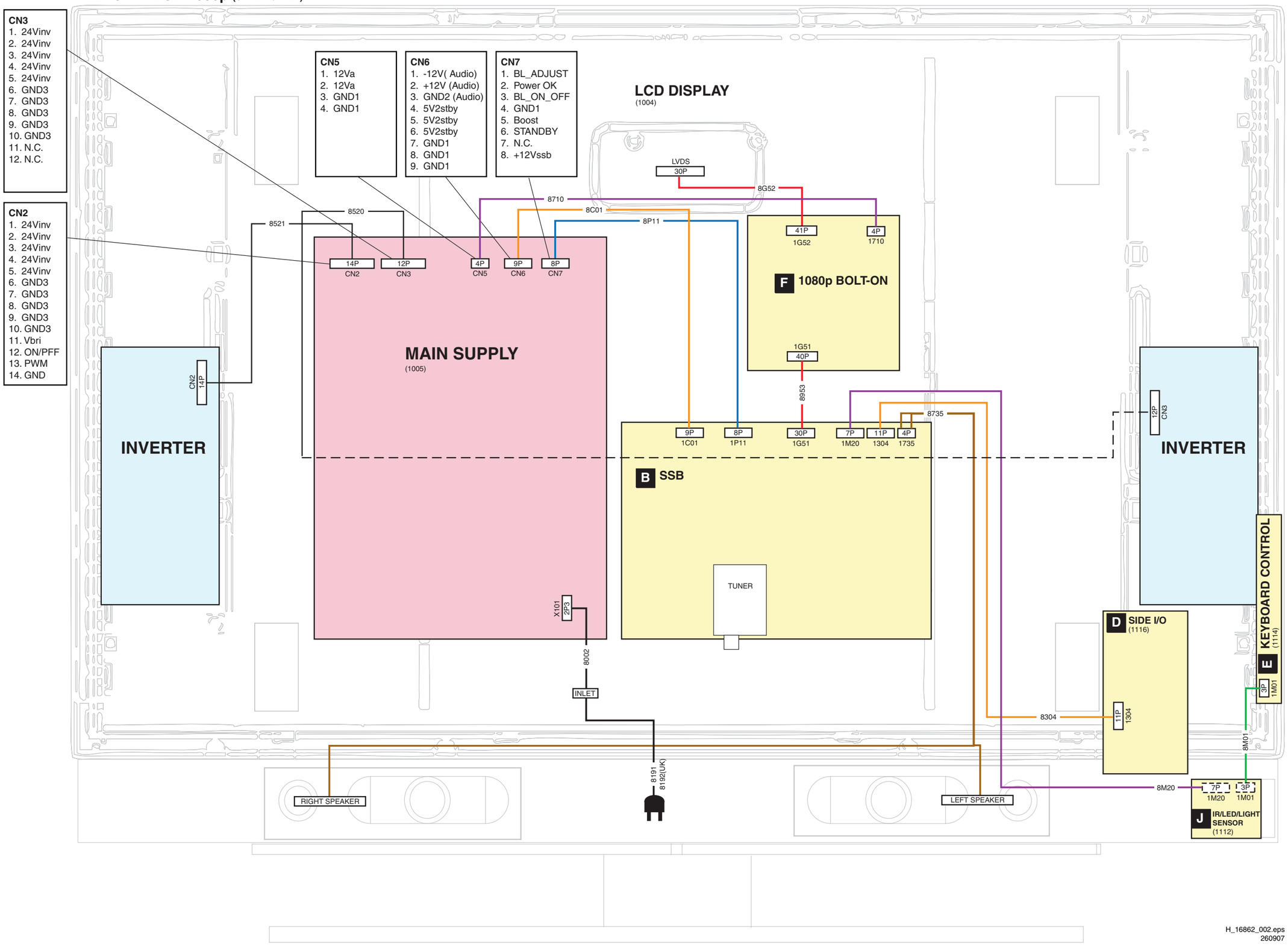
Wiring Diagram 47” 1080p (ME7)

WIRING 47” LCD 1080p (STYLING ME7)



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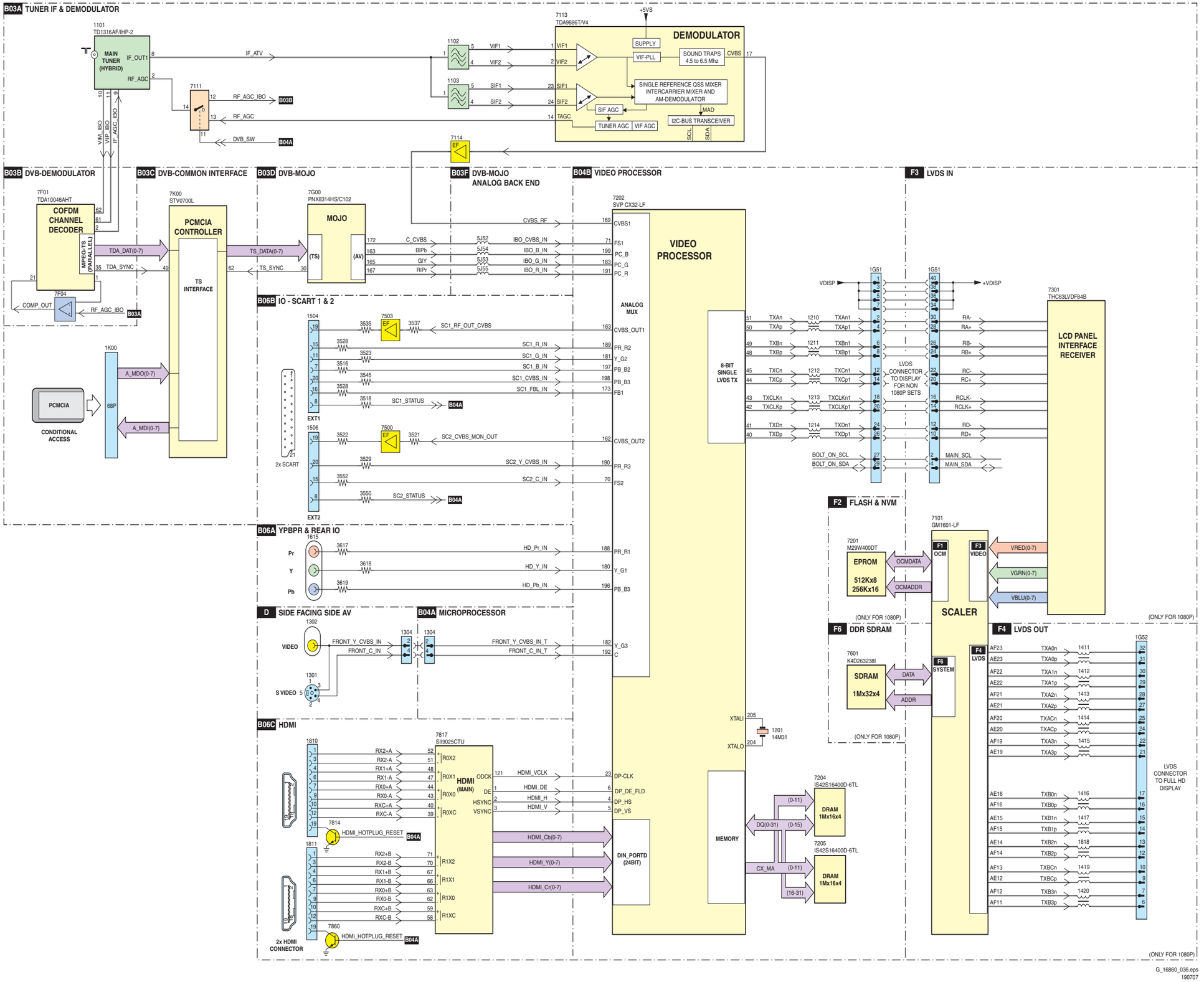
Block Diagram Video

VIDEO



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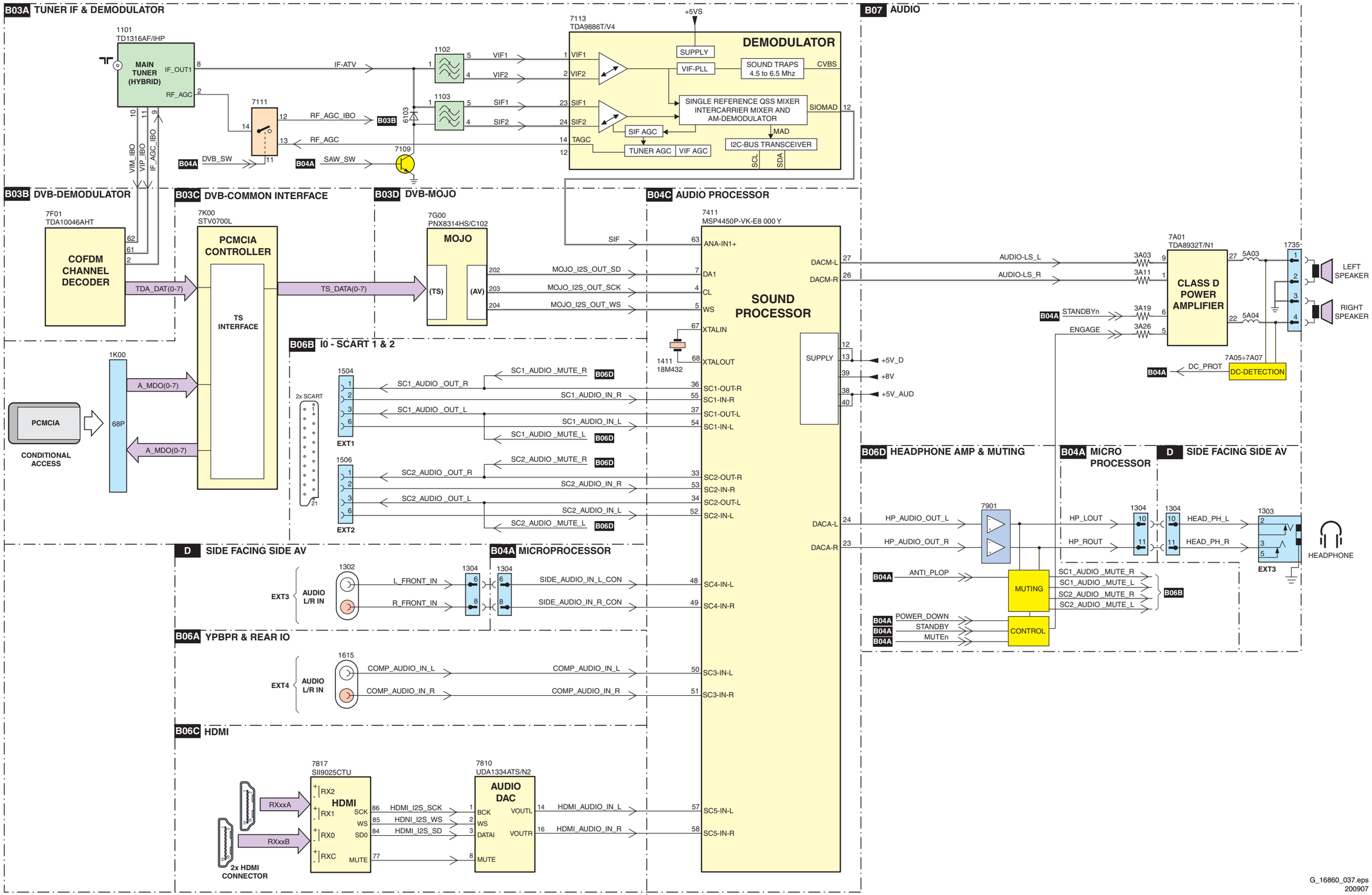
Block Diagram Audio

AUDIO



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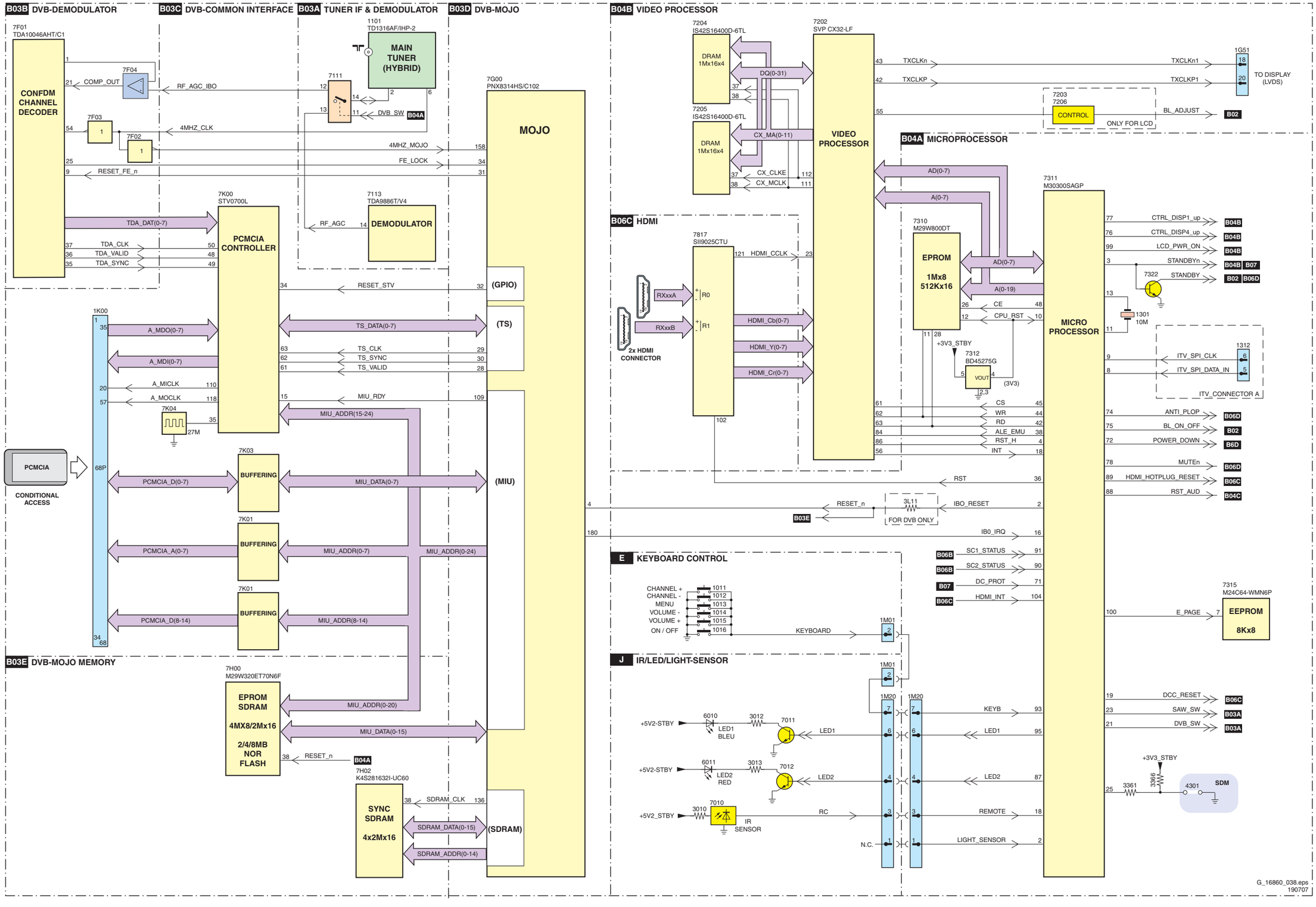
Block Diagram Control & Clock Signals

CONTROL & CLOCK SIGNALS



Test Point Overview SSB (Bottom Side)

A110 E5 F126 E7 F218 A4 F304 A3 F324 B4 F341 B3 F361 B4 F386 A5 F522 D2 F540 D3 F613 E1 F870 F3 FA04 A2 FB19 D7 FC26 A6 FF24 C10 FG20 C10 FG40 C9 FJ25 F9 FK20 D9 FK37 E9 FK54 D8 FK74 D9 I114 E5 I137 E6 I218 D5 I246 C4 I263 C4 I321 B3 I342 B4 I831 F4 IF22 F8
A115 E5 F127 E7 F219 A5 F305 B4 F325 A3 F342 F7 F362 A4 F387 A3 F523 D2 F541 D3 F614 F2 F871 F4 FA05 A3 FB20 C8 FC27 A6 FF25 F8 FG21 C10 FG41 C9 FJ26 C8 FK21 E9 FK38 D9 FK55 E8 FK75 E9 I118 E5 I138 D5 I220 A5 I247 C4 I264 D5 I322 B3 I344 B4 I833 F3 IF23 F9
A116 E5 F128 D5 F220 A5 F309 B4 F326 B3 F343 F7 F363 B5 F401 B3 F524 D2 F542 D2 F615 F5 F872 F4 FA06 A3 FB21 A8 FC28 A6 FF26 E7 FG24 C9 FG42 C10 FJ27 C9 FK22 E9 FK39 E9 FK56 E8 FK80 D10 I120 E5 I139 D5 I224 A5 I248 D4 I265 D3 I323 A3 I345 C8 I840 E3 IF24 F8
A124 E5 F129 D5 F221 A5 F310 A4 F327 A3 F344 F6 F364 B5 F402 C3 F525 C3 F543 E1 F616 F3 F873 F3 FA07 A1 FB22 A8 FC29 A6 FF27 F8 FG25 C9 FH00 B9 FK01 F9 FK23 E9 FK40 E9 FK57 E8 FK81 F10 I121 E7 I141 D6 I225 A5 I249 C4 I266 D3 I326 A5 I347 B4 I841 E3 IF25 F8
A125 E5 F130 D5 F222 A4 F311 B4 F328 B3 F345 C7 F365 B5 F403 C4 F526 C3 F544 D1 F801 E3 F874 F4 FA08 A1 FB23 A8 FF10 C8 FF28 E7 FG26 C10 FH01 D9 FK02 F10 FK24 D9 FK41 E8 FK58 D8 FK82 F9 I122 F6 I142 D5 I230 C4 I250 D5 I267 D3 I328 A3 I349 B4 I842 E3 IF26 F8
F111 E5 F131 E6 F223 A4 F312 A3 F329 B3 F346 B5 F366 B3 F510 E2 F527 C2 F601 F5 F802 E3 F875 E3 FA09 B3 FB24 A8 FF11 E8 FF29 E7 FG27 C9 FH02 B10 FK05 D8 FK25 E9 FK42 D9 FK59 E8 FK83 D9 I123 E6 I143 D5 I231 B5 I251 C4 I268 D4 I329 A3 I351 B5 I843 E3 IF27 F9
F112 E7 F132 E7 F224 A4 F313 B4 F330 A5 F347 B5 F367 A4 F511 E3 F528 C2 F602 F5 F805 D3 F876 D3 FA10 A1 FB25 A8 FF12 F8 FF30 E7 FG28 C9 FH03 B10 FK06 E9 FK26 E9 FK43 E9 FK60 E8 FK84 F9 I124 D5 I144 D5 I232 C4 I252 D4 I269 D4 I330 A4 I352 A4 I844 E4 IF28 F8
F114 E7 F133 E6 F225 A4 F314 A3 F331 B3 F348 B5 F368 A3 F512 E1 F529 C1 F603 E5 F806 E3 F877 E4 FA11 A1 FB26 A8 FF13 F7 FG10 B10 FG29 C8 FH04 B10 FK10 E9 FK27 E9 FK44 E8 FK61 E8 FL20 A2 I125 D5 I145 E6 I233 C4 I253 D4 I270 D4 I331 A4 I353 A4 I845 E4 IF29 F8
F115 F6 F134 F7 F226 A4 F315 B3 F332 B3 F349 B5 F369 B4 F513 E2 F530 C2 F604 F5 F832 F4 F901 B2 FA12 A3 FB27 B6 FF14 F8 FG11 B10 FG30 B9 FH05 D10 FK11 E9 FK28 D9 FK45 E8 FK62 E10 FL21 A2 I126 D5 I146 D6 I236 A3 I254 C4 I271 D4 I332 A3 I354 B5 I846 E3 IF30 F8
F116 F6 F140 D5 F227 A4 F316 A3 F333 B3 F350 B5 F370 F7 F514 E1 F531 D3 F605 F1 F840 F4 F902 B2 FA32 A2 FB28 A9 FF16 E7 FG12 B10 FG31 B10 FH06 D9 FK12 D9 FK29 E9 FK46 D8 FK63 E8 FL22 A2 I127 D5 I147 E6 I238 C4 I255 B4 I311 A4 I333 A4 I357 A5 I847 E3 IF31 E8
F117 F6 F210 A5 F228 A4 F317 B4 F334 B3 F351 A3 F379 A4 F515 E3 F532 D2 F606 F2 F841 F4 F903 B1 FB10 B8 FB29 A7 FF17 E8 FG13 D10 FG32 C10 FH07 C8 FK13 E9 FK30 E9 FK47 E8 FK67 E10 FL23 A2 I128 D5 I210 B5 I239 C5 I256 B4 I312 A4 I334 A4 I359 B5 I848 E3 IF32 E7
F118 E6 F211 C4 F229 A4 F318 A3 F335 B3 F352 A4 F380 A4 F516 D2 F534 E3 F607 F2 F842 F4 F904 C2 FB11 C4 FB30 A8 FF18 E7 FG14 C10 FG33 B10 FH08 D10 FK14 E9 FK31 E9 FK48 E8 FK68 E10 FL24 A2 I129 D5 I211 A5 I240 C4 I257 D4 I313 A4 I335 B4 I362 A4 I850 F3 IG13 C9
F119 E6 F212 A4 F230 A4 F319 B3 F336 A3 F353 B5 F381 B4 F517 D2 F535 E3 F608 F2 F843 F4 F905 B1 FB13 C6 FB31 A7 FF19 E8 FG15 B10 FG34 C10 FJ01 D9 FK15 E9 FK32 E9 FK49 E8 FK69 E10 FL25 A2 I130 D5 I213 D6 I241 B5 I258 D4 I314 A4 I336 A4 I363 B4 I851 E3 IG14 C9
F120 E6 F213 A4 F231 C4 F320 A3 F337 A3 F354 B5 F382 A3 F518 D1 F536 E2 F609 F2 F850 F4 F908 B2 FB14 E6 FB32 A6 FF20 E7 FG16 B10 FG35 C10 FJ02 F9 FK16 D9 FK33 E9 FK50 D8 FK70 D10 FL26 A2 I131 D5 I214 C4 I242 D5 I259 C4 I315 A4 I337 A4 I364 A4 I852 F4 IG15 C10
F121 E6 F214 A4 F232 B4 F321 B3 F338 B4 F356 A5 F383 A3 F519 E2 F537 E2 F610 F6 F851 E4 F910 B2 FB15 A8 FB33 A6 FF21 F7 FG17 C10 FG36 C10 FJ22 C9 FK17 E9 FK34 D9 FK51 E8 FK71 E10 I110 E5 I133 D5 I215 A5 I243 D4 I260 D4 I317 A4 I338 A4 I365 B4 I853 E4 IG16 C10
F122 E6 F215 A4 F302 B3 F322 A3 F339 B4 F357 A3 F384 A3 F520 D2 F538 D3 F611 F5 F861 F3 FA01 A3 FB16 C8 FB34 A6 FF22 E8 FG18 B10 FG37 B9 FJ23 C9 FK18 E9 FK35 E9 FK52 E8 FK72 E10 I111 E7 I135 D5 I216 A5 I244 C4 I261 C4 I318 A5 I339 D3 I366 B4 I854 E4 IG17 C10
F123 D6 F217 A4 F303 C4 F323 A3 F340 B3 F360 A3 F385 A4 F521 D2 F539 D2 F612 F1 F869 F3 FA02 A2 FB17 D6 FC25 A7 FF23 E7 FG19 C10 FG39 C9 FJ24 F9 FK19 E9 FK36 E9 FK53 E8 FK73 E9 I112 E5 I136 D4 I217 D5 I245 D5 I262 C4 I320 A4 I341 B5 I367 B4 I855 F3 IG18 B10
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I369 B4 I857 E3 IG20 B10
I370 B4 I858 E4 IG21 B10
I373 A3 I861 F3 IH04 C10
I374 A3 I862 E3 IH06 D10
I376 A3 I863 F2 IH07 D9
I380 A4 I864 E3 IJ01 D8
I382 B4 I865 E3 IJ02 D8
I383 B4 I866 E3 IJ11 B9
I384 B4 I901 B2 IJ63 C9
I387 B5 I902 B2 IJ64 C9
I388 F7 I903 B2 IJ65 C9
I389 A5 I904 B2 IJ66 C9
I390 A5 I905 B2 IJ67 F9
I391 B5 I911 B1 IJ68 F9
I392 B5 I912 E1 IK68 E9
I393 A4 I913 C1 IK69 F9
I394 A4 I914 B1 IK70 F9
I395 A4 I915 C1 IK72 E9
I396 B5 I916 B1 IK73 E9
I397 A5 I917 B1 IK75 C9
I398 B4 I918 C1 IK76 F9
I399 D3 I919 E2 IK84 F8
I412 C3 I920 E1 IK85 F9
I413 C3 I921 E2 IL20 A2
I414 B3 I922 E1 IL21 A3
I415 B3 I923 C1 IL22 A2
I416 B3 I924 B2 IL23 A2
I417 B3 IA01 A2
I418 B3 IA02 A2
I419 B3 IA03 A2
I420 C3 IA04 A2
I421 C3 IA05 A3
I422 C3 IA06 A3
I423 C3 IA07 A2
I424 C3 IA09 B2
I425 C3 IA10 B3
I426 B3 IA11 B3
I427 D4 IA12 B3
I428 D4 IA13 B2
I429 D4 IA14 A2
I430 D3 IA15 A2
I431 D4 IA16 B2
I432 D3 IA17 A1
I510 E2 IA18 A2
I512 E2 IA19 B2
I517 E1 IA20 B2
I520 D1 IA21 A2
I528 C2 IA22 B2
I530 C2 IA23 A2
I533 C1 IA24 A2
I540 E2 IA25 A2
I541 E2 IA26 A2
I543 C2 IA27 A2
I544 C1 IA29 A2
I545 D2 IA30 A2
I548 C3 IA31 A2
I549 C3 IA33 A3
I550 C3 IA34 A2
I551 C2 IA35 A2
I552 C2 IA36 A2
I553 D3 IA37 A1
I554 C3 IA38 B2
I556 C2 IA39 B2
I557 C2 IA40 A2
I611 E2 IA41 A3
I610 E2 IB10 A8
I615 E5 IB11 B8
I623 E2 IB12 A8
I627 E2 IB13 A8
I631 E5 IB14 B6
I632 F5 IB15 B6
I633 F5 IB17 A8
I635 F5 IB18 A6
I636 E5 IB19 A8
I801 E3 IB20 B8
I802 E2 IF10 F7
I803 E2 IF11 C9
I804 E2 IF12 F7
I805 E3 IF13 F8
I806 E2 IF14 E7
I813 E3 IF15 E7
I814 E4 IF16 E8
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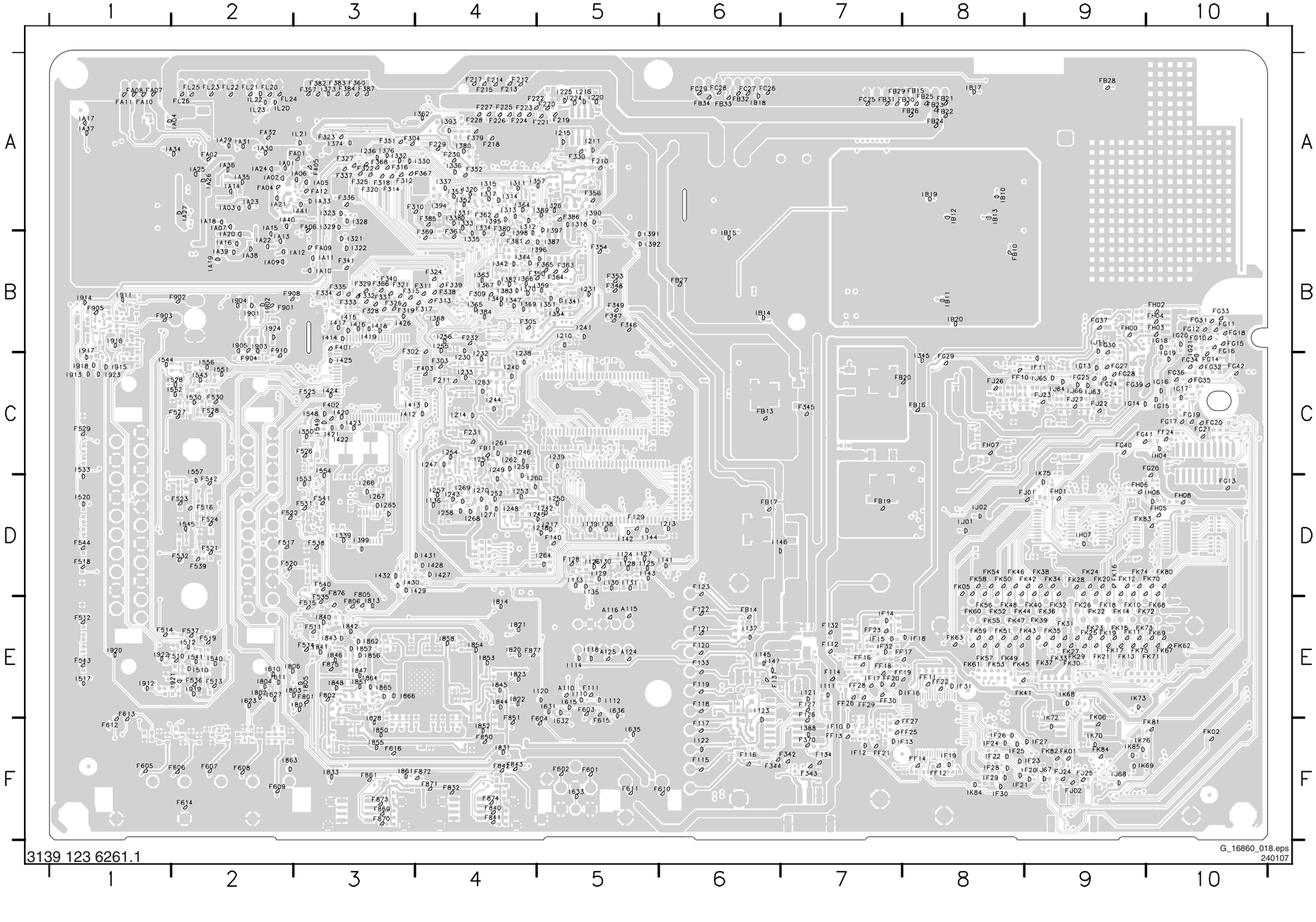

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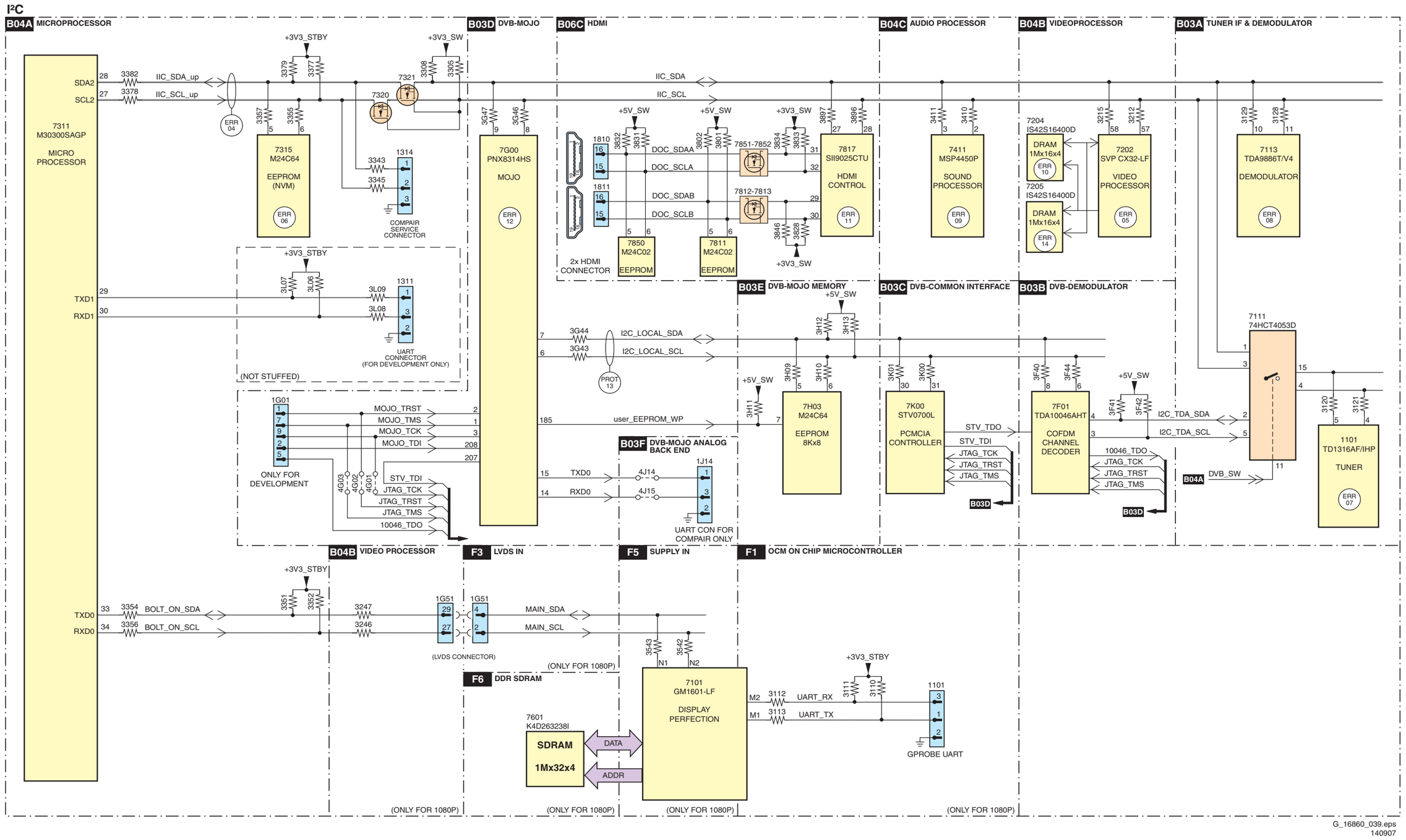
I2C IC's Overview



Supply Lines Overview

SUPPLY LINES OVERVIEW

SUPPLY

B02 DC-DC

*CN6 **X406 CN02 — 1P11
7 +5V_STANDBY
8 +12V_DISP → B04a,b,c

*CN7 **X412 CN01 — 1CO1
1 -AUDIO_POWER → B07
2 +AUDIO_POWER → B07
4 +5V_STANDBY → B04a
5 4C57÷4C60 RES +5V_SW
6 7B02 IN OUT COM +3V3_STBY → B04a,B06d
7 7B05 +5V_SW → B03a,b,c,e, B04c, B06a,b,c,d
8 B04A STANDBY ONLY FOR LCD
9

7B04 IN OUT COM +3V3_SW → B03a,f,B04a,b, B06c
7B06 IN OUT COM +3V3_MOJO → B03f
7B08 IN OUT COM +1V2_MOJO → B03d
5B01 — 5B06 6B03 +VTUN (34V) → B03a
7B03 — 3B13
7B01 STEP DOWN REG. 3 1 5B03 5B02 +1V8S_SW → B03b,B04b
7

*CN5 **X405 — 1 2 TO 1710 F7 1080P

* 26" - 47" SETS
** 42" SETS

B03A TUNER IF & DEMODULATOR

B02 +3V3_SW → +3V3_SW
B02 +5V_SW → +5V_SW
3133 5114 +5VS
3134 5115 +5V_IF
B02 +VTUN → +VTUN ONLY FOR ANALOG TV
B02 +12V_DISP → +12V_DISP

B03B DVB-DEMODULATOR

B02 +1V8S_SW → +1V8S_SW
B03f +3V3 → +3V3
5F10 +3V3FE
B02 +5V_SW → +5V_SW

B03C DVB-COMMON INTERFACE

B03f +3V3 → +3V3
5K03 +3V3_STV
5K04 +3V3_CORE
5K05 +3V3_BUF
B02 +5V_SW → +5V_SW
7K05 IN OUT COM PCMCIA_5V
5K01 PCMCIA_AVCC
5K02 PCMCIA_VPP

B03D DVB-MOJO

B02 +1V2_MOJO → +1V2_MOJO
B03f +3V3 → +3V3
5G04 +3V3_VDDP
B03f +3V3clean → +3V3clean

B03E DVB-MOJO MEMORY

B03f +3V3 → +3V3
5H02 +3V3_NOR48
B02 +5V_SW → +5V_SW

B03F DVB-MOJO ANALOF BACK END

B02 +3V3_MOJO → +3V3_MOJO
5JO1 +3V3clean → B03d
7J04 +3V3 → B03b,c,d
IJ01 +1V8S_SW CONTROL

B04A MICROPROCESSOR

B02 +12V_DISP → +12V_DISP
B02 +3V3_STBY → +3V3_STBY
B02 +3V3_SW → +3V3_SW
B02 +5V_STANDBY → +5V_STANDBY
3L10 5304 1M20 5

B04B VIDEO PROCESSOR

B02 +1V8S_SW → +1V8S_SW
3244 CX_PAVDD1
3248 CX_PAVDD2
5224 CX_PDVDD
5226 CX_PAVDD
5220 CX_AVDD_ADC1
5222 CX_AVDD_ADC2
5225 CX_AVDD_ADC3
5227 CX_AVDD_ADC4
B02 +3V3_SW → +3V3_SW
5219 CX_AVDD3_BG_ASS
5223 CX_AVDD3_OUTBUF
5218 CX_AVDD3_ADC1
5221 CX_AVDD3_ADC2
B02 +12V_DISP → +12V_DISP
7210 5215 VDISP
5217 1G51
7208 CONTROL LCD_PWR_ON B04A ONLY FOR LCD

B04C AUDIO PROCESSOR

B02 +12V_DISP → +12V_DISP
4401 +AUDIO_POWER +12V_DISP
7410 IN OUT COM +8V
B02 +5V_SW → +5V_SW
3402 5401 +5V_D
5402 +5V_AUD

B06A YPBPR & REAR IO

B02 +5V_SW → +5V_SW

1M20 J IR/LED

1G51 F3 1080P
1G51 B04B SSB

B06B IO - SCART 1 & 2

B02 +5V_SW → +5V_SW

B06C HDMI

B02 +3V3_SW → +3V3_SW
B02 +5V_SW → +5V_SW
HDMI CONNECTOR-1 1810 18 +5VHDMI_A
HDMI CONNECTOR-2 1811 19 +5VHDMI_B

B06D HEADPHONE AMP & MUTING

B02 +3V3_STBY → +3V3_STBY
B02 +5V_SW → +5V_SW

B07 AUDIO

B02 +AUDIO_POWER → +AUDIO_POWER
3A01 VDDA
5A05 VDD
5A07 4A01 RES +AUDIO_POWER_+12V_DISP
B02 -AUDIO_POWER → -AUDIO_POWER
3A02 VSSA
5A06 VSS

F1 OCM ON CHIP MICROCONTROLLER

F7 +3V3_SW → +3V3_SW
(ONLY FOR 1080P)

F2 FLASH & NVM

F7 +3V3_IO → +3V3_IO
F7 +3V3_SW → +3V3_SW
(ONLY FOR 1080P)

F3 LVDS IN

F7 +3V3_LVDSA → +3V3_LVDSA
F7 +3V3_LVDSVCC → +3V3_LVDSVCC
F7 +3V3_LVDSD → +3V3_LVDSD
1G51 40 +VDISP → F4
(ONLY FOR 1080P)

F4 LVDS OUT

F3 +VDISP → +VDISP 1G52 41 TO DISPLAY
(ONLY FOR 1080P)

TO SUPPLY

F5 SUPPLY IN

F7 +1V8_CORE → +1V8_CORE
F7 +1V8_DVI → +1V8_DVI
F7 +1V8_ADC → +1V8_ADC
F7 +3V3_IO → +3V3_IO
F7 +3V3_ADC → +3V3_ADC
F7 +3V3_SW → +3V3_SW
F7 +3V3_PLL → +3V3_PLL
F7 +3V3_LVDSA → +3V3_LVDSA
F7 +3V3_LVDSD → +3V3_LVDSD
F7 +3V3_LBADC → +3V3_LBADC
F7 +3V3_DVI → +3V3_DVI
(ONLY FOR 1080P)

F6 LVDS IN

F7 +1V8_CORE → +1V8_CORE
F7 +2V5_DDR_MAL → +2V5_DDR_MAL
F7 +3V3_SW → +3V3_SW
(ONLY FOR 1080P)

F7 DC POWER SUPPLY

1710 1 5A07 +12V
7701-1
7710 STEP DOWN REG. 11 5A07 +3V3
7701-2 14
7
5716 +3V3_IO → F2,F5
5717 +3V3_LVDSA
5718 +3V3_LVDSD → F3,F5
5719 +3V3_LBADC
5720 +3V3_ADC → F5
5721 +3V3_SW → F1,F2, F5,F6
5722 +3V3_DVI → F5
5723 +3V3_PLL
5724 +3V3_LVDSVCC → F3
7713 IN OUT COM +2V5
5715 +2V5_DDR_MAL → F6
7714 IN OUT COM +1V8
5712 +1V8_CORE
5713 +1V8_ADC → F5,F6
5714 +1V8_DVI → F5
(ONLY FOR 1080P)

J IR/LED/LIGHT-SENSOR

1M20 5 +5V_STANDBY → +5V_STANDBY
1M20 B04A SSB

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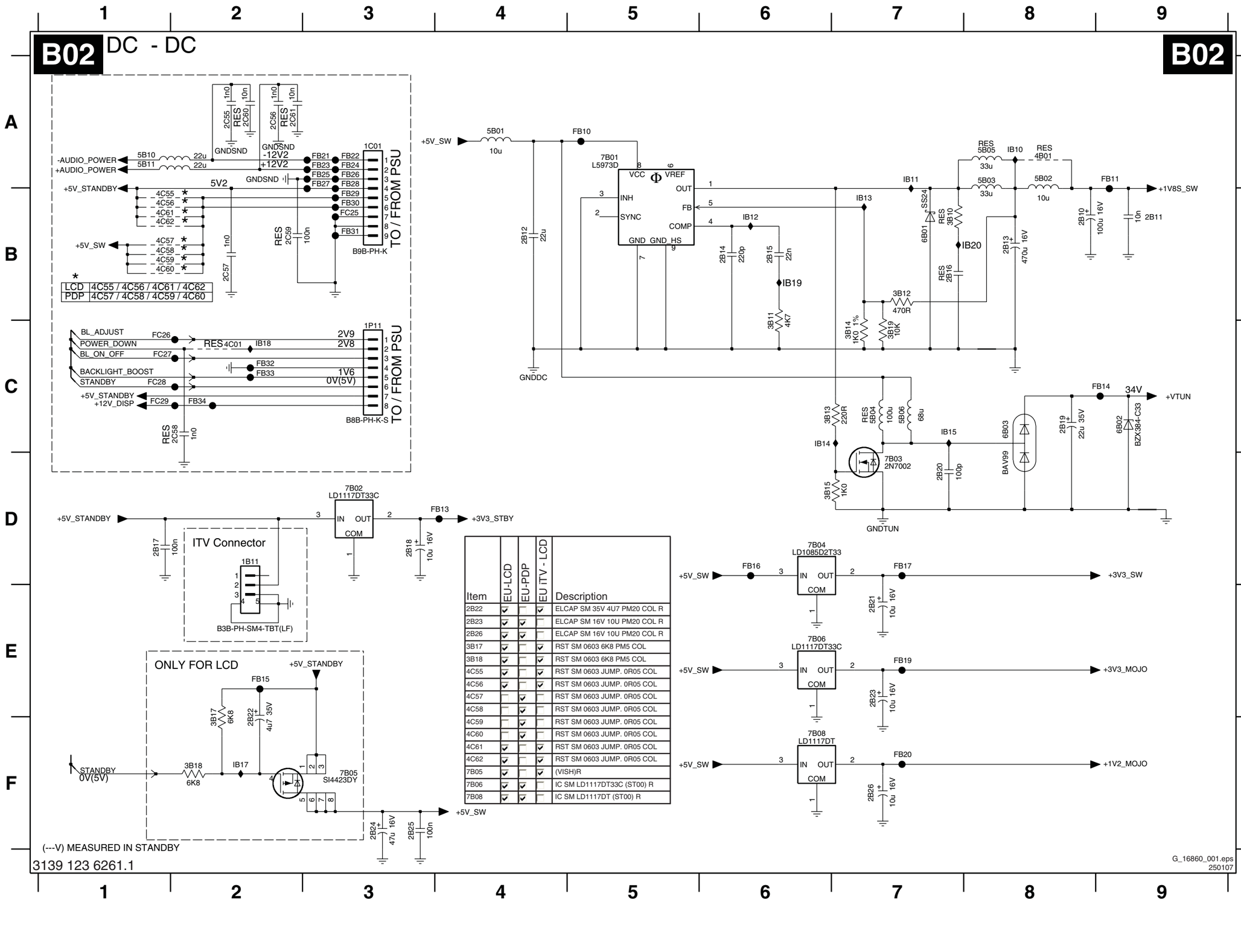
7. Circuit Diagrams and PWB Layouts

SSB: DC/DC



Item	EU-LCD	EU-PDP	EU iTV - LCD	Description
2B22	✓		✓	ELCAP SM 35V 4U7 PM20 COL R
2B23	✓	✓		ELCAP SM 16V 10U PM20 COL R
2B26	✓	✓		ELCAP SM 16V 10U PM20 COL R
3B17	✓		✓	RST SM 0603 6K8 PM5 COL
3B18	✓		✓	RST SM 0603 6K8 PM5 COL
4C55	✓		✓	RST SM 0603 JUMP. 0R05 COL
4C56	✓		✓	RST SM 0603 JUMP. 0R05 COL
4C57		✓		RST SM 0603 JUMP. 0R05 COL
4C58		✓		RST SM 0603 JUMP. 0R05 COL
4C59		✓		RST SM 0603 JUMP. 0R05 COL
4C60		✓		RST SM 0603 JUMP. 0R05 COL
4C61	✓		✓	RST SM 0603 JUMP. 0R05 COL
4C62	✓		✓	RST SM 0603 JUMP. 0R05 COL
7B05	✓		✓	(VISH)R
7B06	✓	✓		IC SM LD1117DT33C (ST00) R
7B08	✓	✓		IC SM LD1117DT (ST00) R

1B11 D2 FB24 A3
1C01 A3 FB25 A3
1P11 C3 FB26 A3
2B10 B8 FB27 A3
2B11 B9 FB28 A3
2B12 B4 FB29 B3
2B13 B8 FB30 B3
2B14 B6 FB31 B3
2B15 B6 FB32 C2
2B16 B7 FB33 C2
2B17 D1 FB34 C2
2B18 D3 FC25 B3
2B19 C8 FC26 C1
2B20 D7 FC27 C1
2B21 E7 FC28 C1
2B22 F2 FC29 C1
2B23 E7 IB10 A8
2B24 F3 IB11 A7
2B25 F3 IB12 B6
2B26 F7 IB13 B7
2C55 A2 IB14 C6
2C56 A2 IB15 C7
2C57 B2 IB17 F2
2C58 C2 IB18 C2
2C59 B2 IB19 B6
2C60 A2 IB20 B8
2C61 A2
3B10 B7
3B11 C6
3B12 B7
3B13 C6
3B14 C7
3B15 D6
3B17 F2
3B18 F2
3B19 C7
4B01 A8
4C01 C2
4C55 B1
4C56 B1
4C57 B1
4C58 B1
4C59 B1
4C60 B1
4C61 B1
4C62 B1
5B01 A4
5B02 A8
5B03 A8
5B04 C7
5B05 A8
5B06 C7
5B10 A1
5B11 A1
6B01 B7
6B02 C9
6B03 C8
7B01 A5
7B02 D3
7B03 D7
7B04 D6
7B05 F3
7B06 E6
7B08 F6
FB10 A5
FB11 A9
FB13 D4
FB14 C9
FB15 E2
FB16 D6
FB17 D7
FB19 E7
FB20 F7
FB21 A3
FB22 A3
FB23 A3

SSB: Tuner & Demodulator

B03A TUNER IF & DEMODULATOR

B03A

SAW FILTERS

TUNER

DVB ONLY

ONLY FOR ANALOG TV

DEMODULATOR

★	ANALOG	DIGITAL
4110	Y	Y
4111	Y	Y
4112	Y	Y
4113	Y	—
4114	Y	—
4115	—	Y
4116	—	Y
4117	—	Y
4118	—	Y
4119	—	Y
4120	Y	—
4121	Y	—
4122	Y	—
4123	Y	Y
4124	Y	Y

1101 A6
1102 B4
1103 C4
1104 E4
2110 B2
2111 B2
2112 B11
2113 B10
2114 B2
2115 B6
2116 B6
2117 C3
2118 C10
2119 C8
2120 C9
2121 E7
2122 D7
2123 F3
2124 F2
2125 F3
2126 F3
2127 F5
2128 F7
2129 H11
2130 H11
2131 I11
2132 I11
2133 G6
2134 H7
2135 H8
2136 H6
2137 H5
2138 H2
2139 H5
2140 I3
2141 I3
2142 C9
2143 F5
2144 I3
2145 I3
2146 B6
2147 A8
2148 A9
2149 B11
2151 C9
3110 A12
3111 A11
3113 B2
3115 B12
3116 B3
3117 C3
3118 D2
3119 D1
3120 D8
3121 E8
3122 D2
3123 E3
3124 E2
3125 G7
3126 H7
3127 H6
3128 I4
3129 I3
3130 B8
3131 D10
3132 E10
3133 H10
3134 H10
3135 F7
3136 A8
3137 A9
4110 B2
4111 B2
4112 B6
4113 B8
4114 C7
4115 C7
4116 C7
4117 C7
4118 C7
4119 C7
4120 D8
4121 D10
4122 E10
4123 D7
4124 G8
4125 B11
5110 B2
5111 B1
5112 B9
5113 C5
5114 H11
5115 H11
5116 G8
5117 B5
5118 A8
5120 D8
5121 E8
6103 C3
6110 A11
7109 D2
7111 B10
7113 F2
7114 G7
7131 D11
7132 E11
7133 A8

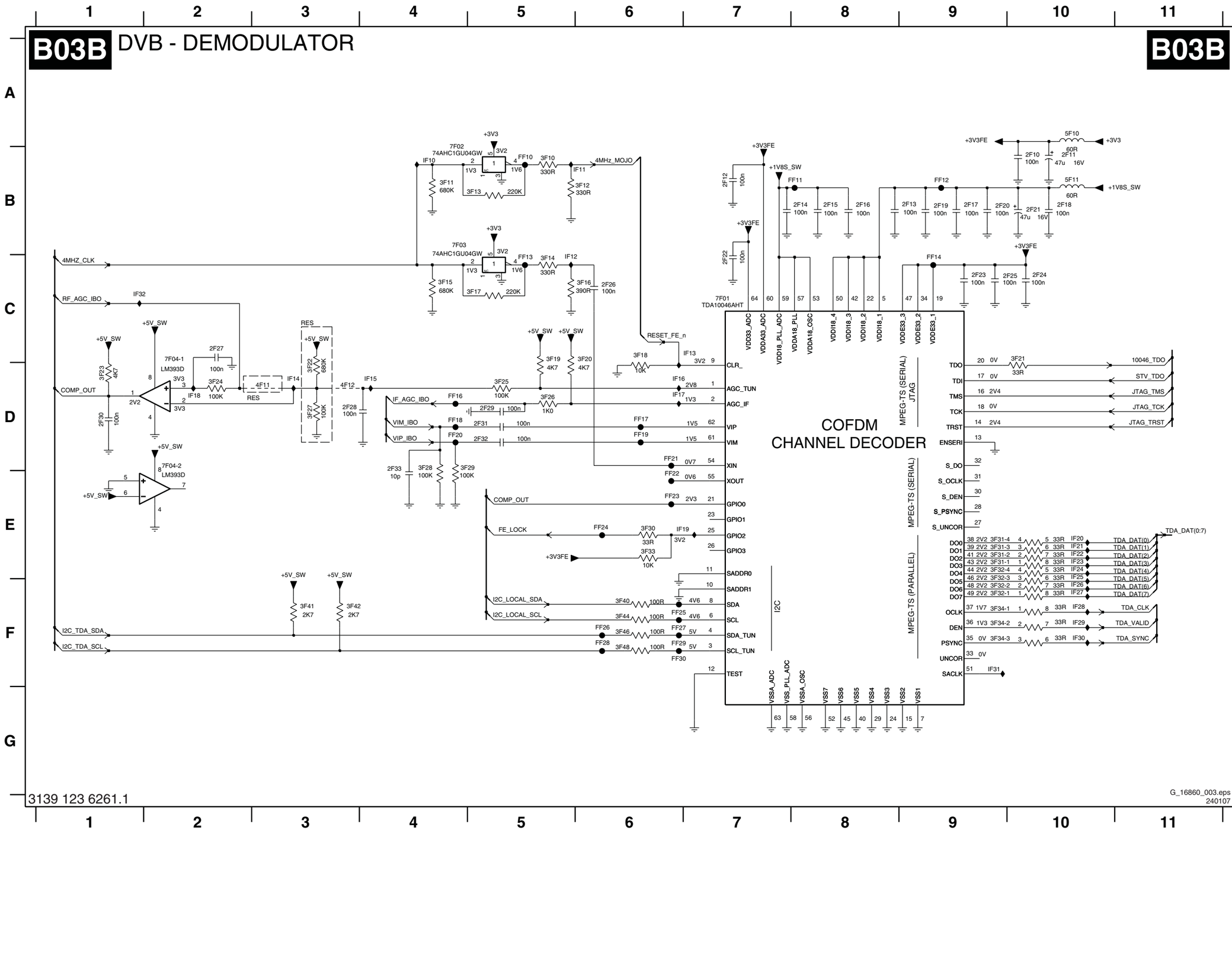
A110 B1
A115 B5
A116 B5
A124 C5
A125 C5
F111 B3
F112 B6
F114 H10
F115 B7
F116 B7
F117 B7
F118 B7
F119 B7
F120 B7
F121 B7
F122 B7
F123 B7
F126 C7
F127 C7
F128 F2
F129 H11
F130 G6
F131 H11
F132 B6
F133 B9
F134 A8
F140 G8
I110 B2
I111 A12
I112 B3
I114 C4
I118 C4
I120 D2
I121 D10
I122 D7
I123 E10
I124 E3
I125 F4
I126 F3
I127 F3
I128 G6
I129 G6
I130 H6
I131 H5
I133 I4
I135 I4
I136 I4
I137 B8
I138 B8
I139 I3
I141 D1
I142 F5
I143 H3
I144 H3
I145 A9
I146 A8
I147 A8

G_16860_002.eps
240107

3139 123 6261.1

SSB: DVB - Demodulator

B03B DVB - DEMODULATOR



3139 123 6261.1

G_16860_003.eps
240107

2F10	B10	FF25	F6
2F11	B10	FF26	F6
2F12	B7	FF27	F6
2F13	B9	FF28	F6
2F14	B8	FF29	F6
2F15	B8	FF30	F6
2F16	B8	IF10	B4
2F17	B9	IF11	B6
2F18	B10	IF12	C5
2F19	B9	IF13	C7
2F20	B9	IF14	D3
2F21	B10	IF15	D4
2F22	C7	IF16	D6
2F23	C9	IF17	D6
2F24	C10	IF18	D2
2F25	C10	IF19	E6
2F26	C6	IF20	E10
2F27	C2	IF21	E10
2F28	D3	IF22	E10
2F29	D5	IF23	E10
2F30	D1	IF24	E10
2F31	D5	IF25	E10
2F32	D5	IF26	F10
2F33	D4	IF27	F10
3F10	B5	IF28	F10
3F11	B4	IF29	F10
3F12	B6	IF30	F10
3F13	B5	IF31	F9
3F14	C5	IF32	C1
3F15	C4		
3F16	C6		
3F17	C5		
3F18	C6		
3F19	C5		
3F20	C6		
3F21	C10		
3F22	D3		
3F23	D1		
3F24	D2		
3F25	D5		
3F26	D5		
3F27	D3		
3F28	D4		
3F29	D5		
3F30	E6		
3F31-1	E9		
3F31-2	E9		
3F31-3	E9		
3F31-4	E9		
3F32-1	F9		
3F32-2	F9		
3F32-3	F9		
3F32-4	E9		
3F33	E6		
3F34-1	F9		
3F34-2	F9		
3F34-3	F9		
3F40	F6		
3F41	F3		
3F42	F3		
3F44	F6		
3F46	F6		
3F48	F6		
4F11	D3		
4F12	D3		
5F10	A10		
5F11	B10		
7F01	C7		
7F02	B4		
7F03	B4		
7F04-1	C2		
7F04-2	D2		
FF10	B5		
FF11	B8		
FF12	B9		
FF13	C5		
FF14	C9		
FF16	D4		
FF17	D6		
FF18	D4		
FF19	D6		
FF20	D4		
FF21	D6		
FF22	E6		
FF23	E6		
FF24	E6		

SSB: DVB - Common Interface

B03C DVB-COMMON INTERFACE

B03C

PCMCIA CONTROLLER

I²C INTERFACE

TS INTERFACE

INTERRUPTS MANAGEMENT

UCSG

CURRENT SWITCH

68p PCMCIA CONNECTOR

LATCH

BUS TRANSCEIVER

3139 123 6261.1

G_16860_004.eps 240107

1K00-A H7	FK45 J8
1K00-B H8	FK46 J7
2K00 H4	FK47 J8
2K01 I4	FK48 J7
2K02 H15	FK49 J8
2K03 H15	FK50 J7
2K04 J2	FK51 J8
2K05 G15	FK52 J7
2K06 H15	FK53 J8
2K07 F14	FK54 J7
2K08 H15	FK55 J8
2K09 H15	FK56 J7
2K10 H15	FK57 J8
2K11 I15	FK58 J7
2K12 I15	FK59 J8
2K13 I15	FK60 J7
2K14 F9	FK61 J8
2K15 K4	FK62 J8
2K16 F8	FK63 J7
2K17 G8	FK67 H8
3K00 F2	FK68 H7
3K01 F2	FK69 H8
3K02-1 F4	FK70 H7
3K02-2 F4	FK71 H8
3K02-3 F4	FK72 H7
3K03-1 F5	FK73 H8
3K03-2 F5	FK74 H7
3K03-3 F5	FK75 H8
3K03-4 F5	FK80 H7
3K04 H9	FK81 H15
3K05-1 F5	FK82 I15
3K05-2 F5	FK83 I15
3K05-3 F5	FK84 E15
3K05-4 F6	IK68 C10
3K06 J9	IK69 C10
3K07 J9	IK70 F15
3K08 J6	IK72 F16
3K09 F9	IK73 C10
3K10 E14	IK75 F11
3K11 F16	IK76 C11
3K12 F10	IK84 F8
3K13 F14	IK85 C4
3K15 B9	
3K16 B9	
3K17 B9	
3K18 B9	
3K19 B9	
3K20 B9	
3K21 B9	
3K22 B9	
3K23-1 K4	
3K23-2 K4	
3K23-3 K4	
3K23-4 K4	
3K24-1 K4	
3K24-2 K4	
3K24-3 K4	
3K24-4 K4	
3K25 J4	
3K26 K4	
3K27 B2	
3K28 B2	
3K29 B3	
3K30 B3	
3K31 B3	
3K32 B3	
3K33 B3	
3K34-1 B3	
3K34-2 C3	
3K34-3 C4	
3K34-4 C4	
3K38 B4	
3K39 B4	
3K40 B4	
3K41 B5	
3K42 B5	
3K43 B5	
3K44 B5	
3K45 B5	
3K46 B5	
3K47 B5	
3K48 B6	
3K49 H2	
3K50 H2	
3K51 J6	
3K52 B4	
5K01 G14	
5K02 H14	
5K03 H14	
5K04 I14	
5K05 I14	
7K00 E1	
7K01 H3	
7K02 I3	
7K03 J3	
7K04 F8	
7K05 E15	
FK01 E9	
FK02 E10	
FK05 F9	
FK06 F14	
FK10 H7	
FK11 H8	
FK12 H7	
FK13 H8	
FK14 H7	
FK15 H8	
FK16 H7	
FK17 H8	
FK18 I7	
FK19 I8	
FK20 I7	
FK21 I8	
FK22 I7	
FK23 I8	
FK24 I7	
FK25 I8	
FK26 I7	
FK27 I8	
FK28 I7	
FK29 I8	
FK30 I7	
FK31 I7	
FK32 I7	
FK33 I8	
FK34 I7	
FK35 I8	
FK36 I7	
FK37 I8	
FK38 I7	
FK39 I8	
FK40 I7	
FK41 I8	
FK42 I7	
FK43 I8	
FK44 J7	

SSB: DVB - Mojo

B03D DVB-MOJO

B03D

FOR DVE. ONLY

POWER ON RESET

FOR DEV. ONLY

PRO. FOR USB

4G05 FOR DEVELOPMENT ONLY
4G01, 4G02, 4G03,4G04 FOR PRODUCTION

3139 123 6261.1

G_16860_005.eps
240107

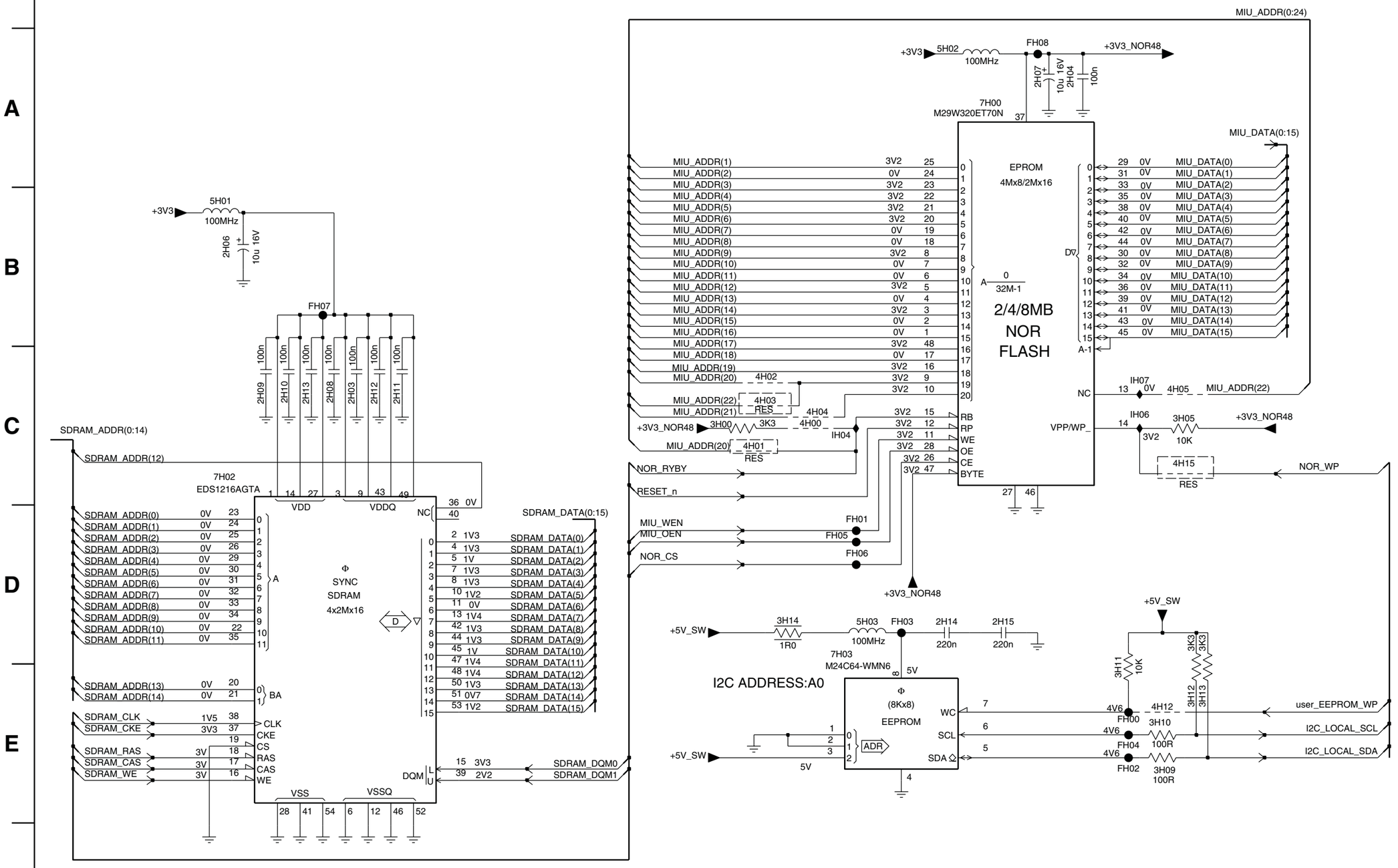
1G01-1 A8
1G01-2 A9
1G03 D2
1G04 I1
2G02 G5
2G03 G6
2G04 G6
2G05 G6
2G06 H6
2G07 H6
2G08 H6
2G09 H6
2G10 H6
2G11 H6
2G12 F6
2G13 G6
2G14 G6
2G15 G6
2G16 G6
2G17 G6
2G18 G6
2G19 H9
2G20 I9
2G21 I9
2G22 H6
2G23 I6
2G24 I6
2G31 B4
2G32 C5
2G33 C5
2G34 D1
3G11 E6
3G12 E9
3G15 A4
3G16 A4
3G17 A4
3G18 A4
3G19 A4
3G20 A4
3G28 E14
3G29 F14
3G30 E14
3G31 E14
3G33 G2
3G34 G2
3G35 F2
3G36 F14
3G37 F14
3G38 A4
3G40 I8
3G41 E14
3G43 H2
3G44 H2
3G46 H2
3G47 I2
3G48 C6
3G51 G13
3G54 G13
3G55 G13
3G56-1 H10
3G56-2 H10
3G56-3 H10
3G56-4 H10
3G57-1 G10
3G57-2 H10
3G57-3 G10
3G57-4 H10
3G58-1 G10
3G58-2 H10
3G58-3 G10
3G58-4 H10
3G59-1 H10
3G59-2 H10
3G59-3 H10
3G59-4 H10
3G60 I11
3G61 I11
3G62 I11
3G63 F10
3G65 C2
4G01 B9
4G02 B9
4G03 B9
4G04 C8
4G05 C8
4G09 A2
4G10 A2
4G31 C4
5G01 F5
5G02 G5
5G03 C4
5G04 I6
7G00-1 F7
7G00-2 E3
7G00-3 F3
7G00-4 A12
7G00-5 G12
7G00-6 H4
7G00-7 D12
7G00-8 D7
7G06 C1
FG10 A7
FG11 A7
FG12 A7
FG13 A9
FG14 A7
FG15 A7
FG16 A7
FG17 H2
FG18 C6
FG19 H2
FG20 E13
FG21 E13
FG22 E13
FG23 E13
FG24 E14
FG25 E14
FG26 E9
FG27 F14
FG28 F13
FG29 F13
FG30 F13
FG31 H2
FG32 H3
FG33 H2
FG34 H3
FG35 H3
FG36 I3
FG37 C5
FG39 F6
FG40 A7
FG41 A7
FG42 C1
IG13 I8
IG14 F1
IG15 G1
IG16 G1
IG17 F11
IG18 F2
IG19 G2
IG20 G2
IG21 E6

SSB: DVB - Mojo Memory

B03E DVB-MOJO MEMORY

B03E

2H03 C2
2H04 A7
2H06 B1
2H07 A6
2H08 C2
2H09 C2
2H10 C2
2H11 C2
2H12 C2
2H13 C2
2H14 D6
2H15 D6
3H00 C4
3H05 C7
3H09 E7
3H10 E7
3H11 E7
3H12 E7
3H13 E7
3H14 D5
4H00 C5
4H01 C5
4H02 C5
4H03 C5
4H04 C5
4H05 C7
4H12 E7
4H15 C7
5H01 B1
5H02 A6
5H03 D5
7H00 A6
7H02 C1
7H03 D5
FH00 E7
FH01 D5
FH02 E7
FH03 D6
FH04 E7
FH05 D5
FH06 D5
FH07 B2
FH08 A6
IH04 C5
IH06 C7
IH07 C7

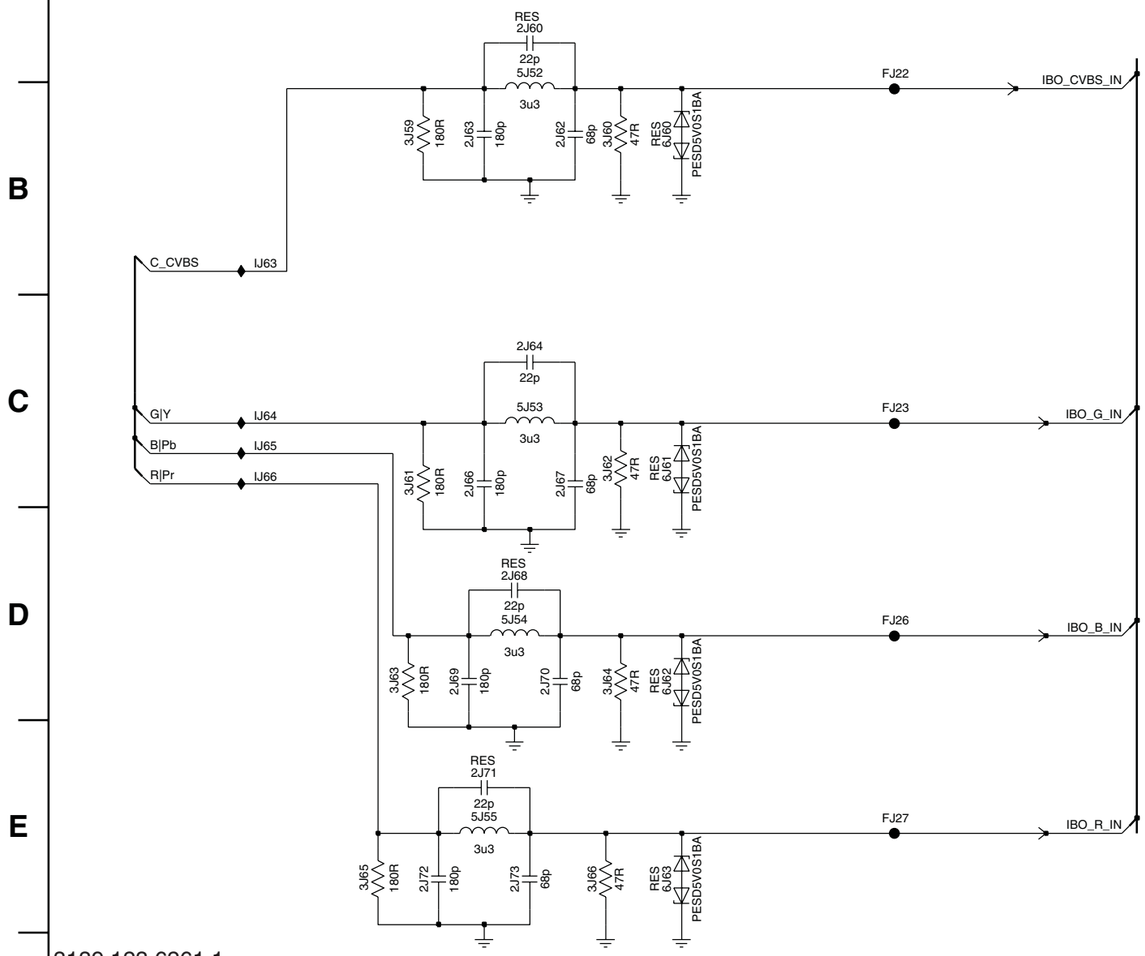


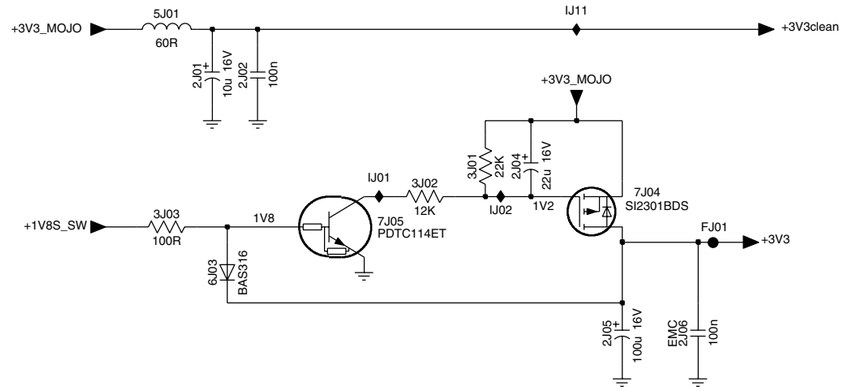
3139 123 6261.1

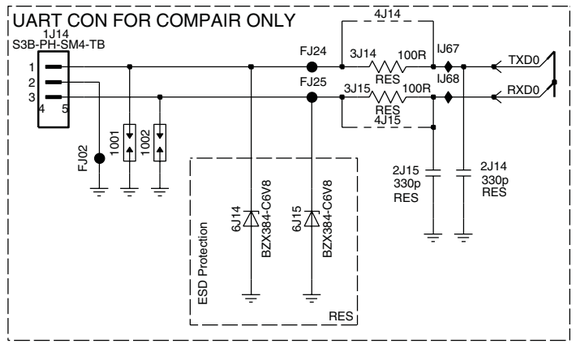
G_16860_006.eps
240107

SSB: DVB - Mojo Analog Back End

B03F DVB-MOJO ANALOG BACK END







3139 123 6261.1

G_16860_007.eps
240107

1001 D7 IJ66 C1
1002 D7 IJ67 D8
1J14 D6 IJ68 D8
2J01 B7
2J02 B7
2J04 B8
2J05 C8
2J06 C9
2J14 D8
2J15 D8
2J60 A2
2J62 B3
2J63 B2
2J64 C2
2J66 C2
2J67 C3
2J68 D2
2J69 D2
2J70 D3
2J71 E2
2J72 E2
2J73 E2
3J01 B8
3J02 B8
3J03 B6
3J14 D8
3J15 D8
3J59 B2
3J60 B3
3J61 C2
3J62 C3
3J63 D2
3J64 D3
3J65 E2
3J66 E3
4J14 D8
4J15 D8
5J01 A6
5J52 A2
5J53 C2
5J54 D2
5J55 E2
6J03 C7
6J14 D7
6J15 D8
6J60 B3
6J61 C3
6J62 D3
6J63 E3
7J04 B9
7J05 B7
FJ01 B9
FJ02 D6
FJ22 A4
FJ23 C4
FJ24 D8
FJ25 D8
FJ26 D4
FJ27 E4
IJ01 B7
IJ02 B8
IJ11 A8
IJ63 B1
IJ64 C1
IJ65 C1

SSB: Micro Processor

B04A MICROPROCESSOR

B04A

Item	TV	with Side AV	Other region	Description
1304				CON V 11P M 2.00 PH B
1312				CON V 10P M 2.00 SM PH R
1315				CON V 6P M 2.00 PH B
1M20				CON V 7P M 2.00 PH B
2321				CER1 0603 NP0 50V 22P COL
2322				CER1 0603 NP0 50V 22P COL
3320				RST SM 0603 100R PM5 COL
3322				RST SM 0603 100R PM5 COL
3351				RST SM 0603 3K3 PM5 COL
3352				RST SM 0603 3K3 PM5 COL
3354				RST SM 0603 100R PM5 COL
3356				RST SM 0603 100R PM5 COL
3370				RST SM 0603 100R PM5 COL
3L08				RST SM 0603 100R PM5 COL
3L09				RST SM 0603 100R PM5 COL
3L10				RST SM FUSE 1206 1R PM5 R
3L12				RST SM 0603 10K PM5 COL
3L13				RST SM 0603 10K PM5 COL
4L09				RST SM 0603 JUMP. 0R05 COL

TO / FROM SIDE IO

TO / FROM IR/ LED & KEYBOARD

ITV_Connector A:

COMPAIR

EPROM 1Mx8/512Kx16

EEPROM (8Kx8)

UART CON For Development only

3139 123 6261.1

G_16860_008.eps 250107

1301 B3	3376 D6	F341 E11
1302 I2	3377 E7	F342 I2
1303 I2	3378 F7	F343 I2
1304 A9	3379 E7	F344 I3
1305 I9	3380 D5	F345 G10
1306 H8	3381 G2	F346 H5
1307 I8	3382 E7	F347 I5
1308 I8	3383 F2	F348 I5
1309 I8	3384 H2	F349 I5
1310 I9	3385 H2	F350 F8
1311 H7	3386 H2	F351 I5
1312 H5	3387 E5	F352 I5
1314 I3	3388 E5	F353 I5
1M20 H8	3389 I11	F354 I5
2310 A4	3390 I11	F356 E8
2311 C13	3391 I11	F357 H8
2312 A4	3392 I11	F360 I9
2313 A4	3393 E1	F361 D3
2314 B3	3394 D1	F362 C5
2315 B1	3395 E2	F363 G11
2316 B3	3396 C7	F364 G11
2317 B2	3397 E5	F365 G11
2318 C3	3398 E2	F366 E11
2319 E11	3399 E2	F367 E11
2320 F9	3L01 G6	F368 C13
2321 G7	3L02 H5	F369 E11
2322 G7	3L04 E2	F370 G6
2323 G1	3L05 B5	F379 D2
2324 F7	3L06 H6	F380 B3
2325 F8	3L07 H7	F381 B3
2326 E8	3L08 H5	F382 I10
2327 H9	3L09 H5	F383 I10
2328 I10	3L10 H11	F384 I10
2329 I10	3L11 C7	F385 D3
2330 I10	3L12 G7	F386 C5
2331 I10	3L13 G7	F387 I10
2332 I12	3L14 G9	FL20 A9
2333 I10	3L15 F1	FL21 A9
2334 I11	3L20 A11	FL22 A9
2335 I11	3L21 A11	FL23 A9
2336 I11	3L22 B11	FL24 A9
2337 I12	3L23 B11	FL25 A9
2338 E2	3L24 A11	FL26 A9
2339 I12	3L25 A11	I311 B5
2340 I10	3L26 D5	I312 B3
2L20 A10	4301 F6	I313 B5
2L21 A10	4302 H11	I314 B5
2L22 A11	4303 H12	I315 B5
2L23 A11	4306 G12	I317 B5
2L24 A12	4307 G12	I318 G9
2L25 A12	4308 H5	I320 C5
2L26 B10	4309 I12	I321 D10
2L27 B10	4310 I11	I322 D10
2L28 B11	4313 H6	I323 D10
2L29 B11	4314 H11	I326 C5
2L30 B10	4315 H11	I328 D10
2L31 B10	4316 G9	I329 E9
2L32 B11	4323 F1	I330 D1
2L33 B11	4324 D2	I331 D3
3300 C1	4325 D2	I332 D1
3303 B5	4L20 A11	I333 D3
3304 D6	4L21 A11	I334 D1
3305 G12	4L24 A11	I335 D3
3306 F7	4L25 A11	I336 D5
3307 G7	5301 A4	I337 D1
3308 G12	5302 C13	I338 D3
3309 G12	5304 I11	I339 D1
3310 B6	6301 B2	I341 D5
3311 B5	6302 D10	I342 D5
3312 B5	6303 E10	I344 D5
3313 B5	6304 E10	I345 E5
3314 B3	6305 F9	I347 G6
3315 B5	6306 I2	I349 G6
3316 B2	6307 I2	I351 F5
3317 B5	6308 H8	I352 D3
3318 B3	6309 I8	I353 D1
3319 B2	6310 I8	I354 F5
3320 B5	6311 I9	I357 C5
3321 B3	6312 I9	I359 G5
3322 B5	6313 I9	I362 D6
3323 B3	6317 D1	I363 G5
3324 C5	6318 E2	I364 D5
3325 C1	7308 E1	I365 G3
3326 D11	7310 C12	I366 E6
3327 C5	7311 B3	I367 E6
3328 D10	7312 B1	I368 G3
3329 C5	7313-1 D9	I369 H5
3330 D10	7313-2 C10	I370 H5
3331 C2	7314 F6	I373 I10
3332 D2	7315 F10	I374 I11
3333 C1	7316 F2	I376 I12
3334 C2	7317 E1	I380 E1
3335 C2	7320 H11	I382 G5
3336 E11	7321 H12	I383 H5
3337 E9	7322 C7	I384 H3
3338 D3	7323-1 G1	I387 B3
3339 D3	7323-2 F1	I388 D6
3340 D3	F302 C6	I389 C5
3341 D3	F303 G6	I390 C6
3342 D3	F304 C6	I391 H6
3343 I1	F305 F5	I392 H6
3344 D5	F309 H5	I393 E2
3345 I1	F310 C11	I394 E2
3346 D5	F311 C11	I395 B5
3347 D5	F312 C13	I396 E5
3348 D5	F313 C11	I397 E5
3349 E5	F314 C13	I398 E5
3350 E5	F315 C11	I399 D1
3351 G7	F316 C13	IL20 A11
3352 G7	F317 C11	IL21 A12
3353 F11	F318 C13	IL22 A11
3354 G7	F319 C11	IL23 A12
3355 G11	F320 C13	
3356 G7	F321 C11	
3357 G11	F322 C13	
3358 F7	F323 B6	
3359 F7	F324 D11	
3360 G5	F325 D13	
3361 F5	F326 D11	
3362 C6	F327 D13	
3363 D2	F328 D11	
3364 D3	F329 D11	
3365 F5	F330 B1	
3366 F5	F331 D11	
3367 F5	F332 D11	
3368 C5	F333 D11	
3369 G5	F334 D11	
3370 G5	F335 D11	
3371 G5	F336 D11	
3372 H2	F337 D13	
3373 G5	F338 D11	
3374 G13	F339 D11	
3375 H2	F340 D11	

SSB: Video Processor

B04B VIDEO PROCESSOR

B04B

VIDEO PROCESSOR

VDISP-SWITCH

LCD

PDP

DISPLAY CONTROL LVDS CONNECTOR

Item	EU LCD	EU PDP	EU/US LCD+ITV	AP/CH/LT LCD	AP/CH/LT PDP	Description
1217			✓	✓		FIL CM SM 50V 100MHZ 67R R
1218			✓	✓		FIL CM SM 50V 100MHZ 67R R
2207			✓	✓		CER2 0603 X7R 16V 100N COL
2208			✓	✓		ELCAP SM SEV 25V 100U PM20 R
			✓	✓		ELCAP SM 16V 100U PM20 COL R
2209			✓	✓		ELCAP SM SEV 25V 100U PM20 R
			✓	✓		ELCAP SM 16V 100U PM20 COL R
2210			✓	✓		CER2 0603 X7R 16V 100N COL
2248			✓	✓		CER2 0805 X7R 16V 1U PM10 R
2267			✓	✓		CER2 0603 X7R 16V 100N COL
2294			✓	✓		CER2 0603 X7R 16V 100N COL
3213			✓	✓		RST SM 0603 47K PM5 COL
3216			✓	✓		RST SM 0603 47K PM5 COL
3217			✓	✓		RST SM 0603 47K PM5 COL
3227			✓	✓		RST SM 0603 100R PM5 COL
3233			✓	✓		RST SM 0603 100R PM5 COL
3235			✓	✓		RST SM 0603 100R PM5 COL
3238			✓			RST SM 0603 100R PM5 COL
3241			✓	✓		RST SM 0603 220R PM5 COL
3242			✓	✓		RST SM 0603 4K7 PM5 COL
3243			✓	✓		RST SM 0603 100R PM5 COL
3245			✓	✓		RST SM 0603 10K PM5 COL
3246			✓	✓		RST SM 0603 100R PM5 COL
3247			✓	✓		RST SM 0603 100R PM5 COL
3250			✓	✓		RST SM 0603 22R PM5 COL
3253			✓	✓		RST SM 0603 22R PM5 COL
3254			✓	✓		RST SM 0603 22R PM5 COL
3256			✓	✓		RST SM 0603 22R PM5 COL
3257			✓			RST SM 0603 10K PM5 COL
3258			✓	✓		RST SM 0603 10K PM5 COL
4204			✓	✓		RST SM 0603 JUMP. 0R05 COL
4205			✓	✓		RST SM 0603 JUMP. 0R05 COL
4206			✓	✓		RST SM 0603 JUMP. 0R05 COL
4208			✓	✓		RST SM 0603 JUMP. 0R05 COL
4209			✓	✓		RST SM 0603 JUMP. 0R05 COL
5215			✓	✓		IND FXD 0805 EMI 100MHZ 220R R
5217			✓	✓		IND FXD 0805 EMI 100MHZ 220R R
6202			✓	✓		DIO REG SM BZX384-C5V6 COL R
7203			✓	✓		TRA SIG SM BC847BW (COL) R
7206			✓	✓		TRA SIG SM BC847BW (COL) R
7208			✓	✓		TRA SIG SM PDTC114ET (COL) R
7210			✓	✓		ES/VISHR
7211			✓	✓		IC SM 74LCX14T (COL) R

	LGE	SDI	FHP
CTRL-DISP1		RESET Semi standby : H Normal and off : L	
CTRL-DISP2(LCD_PWR_on)	DISPEN On time : H Off time : Don't care		CPU-GO On time : H Off time : Don't care
CTRL-DISP3(Rev_Standby)			PDWIN On time : H Off time : Don't care
CTRL-DISP4			PDP-GO On time : H Semi standby : L Off time : Don't care

1201 D4	3241 K9	I232 E4	
1210 H12	3242 K9	I233 E4	
1211 I12	3243 K9	I236 E15	
1212 I12	3244 A7	I238 J4	
1213 J12	3245 K8	I239 K4	
1214 J12	3246 J14	I240 K8	
1215 L7	3247 J14	I241 K9	
1216 L7	3248 B7	I242 A6	
1G50 H15	3250 J2	I243 A7	
1G51 H17	3251 J3	I244 L8	
2205 K7	3253 K3	I245 A4	
2206 K7	3254 K2	I246 A9	
2207 B17	3255 K3	I247 B7	
2208 B16	3256 L3	I248 A6	
2209 B16	3257 J1	I249 B9	
2210 B17	3258 K1	I250 B4	
2211 C5	3260-1 B12	I251 B7	
2212 C5	3260-2 B12	I252 B9	
2213 C5	3260-3 B12	I253 C9	
2214 C5	3260-4 B12	I254 C7	
2215 C5	3261-1 B12	I255 D2	
2216 D9	3261-2 B12	I256 D2	
2217 B13	3261-3 B12	I257 J4	
2218 B13	3261-4 B12	I258 J4	
2219 B13	3262-1 B12	I259 J10	
2220 B13	3262-2 B12	I260 J10	
2221 B13	3262-3 C12	I261 J10	
2222 B13	3262-4 C12	I262 J10	
2223 B14	3263-1 E12	I263 K8	
2224 E12	3263-2 E12	I264 L3	
2225 E12	3263-3 E12	I265 A3	
2226 E13	3263-4 E12	I266 A2	
2227 E13	3264-1 E12	I267 B3	
2228 E13	3264-2 E12	I268 K6	
2229 B14	3264-3 E12	I269 K7	
2230 C5	3264-4 E12	I270 K7	
2231 C5	3265-1 E12	I271 K8	
2232 C5	3265-2 E12		
2233 D8	3265-3 F12		
2234 D8	3265-4 F12		
2235 D8	3266 C12		
2236 D3	3267 F13		
2237 D4	3268-1 F12		
2238 D4	3268-2 C12		
2239 D4	3268-3 F12		
2240 D4	3268-4 C12		
2241 D4	3271-1 C12		
2242 D4	3271-2 F12		
2243 D5	3271-3 C12		
2244 D5	3271-4 F12		
2245 D8	3272 J9		
2246 D3	3273 A2		
2247 E3	3274 B2		
2248 C15	3275 A3		
2250 F4	3276 B3		
2251 F4	4203 B14		
2252 F4	4204 B15		
2253 F4	4205 B15		
2254 F4	4206 B15		
2255 F4	4207 L9		
2256 F4	4208 E2		
2257 F4	4209 I2		
2258 F4	4210 L6		
2259 F4	4211 L7		
2260 F4	4212 L7		
2261 F4	4213 L8		
2262 F16	4214 B16		
2263 F16	4215 B16		
2264 F16	5210 B4		
2265 F16	5211 A16		
2266 J11	5212 A14		
2267 I8	5213 C9		
2268 I8	5214 C4		
2269 J11	5215 A16		
2270 J11	5216 C3		
2271 J10	5217 B16		
2272 J10	5218 A6		
2273 J3	5219 A4		
2274 J10	5220 A8		
2275 J3	5221 B6		
2276 J3	5222 B8		
2277 J3	5223 B4		
2278 K9	5224 B7		
2279 A7	5225 B8		
2280 A6	5226 C7		
2281 L8	5227 C8		
2282 A9	5228 D13		
2283 K15	6201 C17		
2284 A4	6202 C15		
2285 K15	7202 D4		
2286 B7	7203 L9		
2287 B9	7204 B11		
2288 B6	7205 E11		
2289 B4	7206 K9		
2290 B7	7207 B16		
2291 B9	7208 C15		
2292 C7	7210 A15		
2293 C9	7211-1 J2		
2294 K3	7211-2 K2		
2295 E13	7211-3 K2		
2296 E13	7211-4 L2		
2297 E13	7211-5 L4		
2298 D8	7211-6 L5		
3201-1 I4	7213-1 A3		
3201-2 I4	7213-2 B3		
3201-3 I4	7213-3 B3		
3201-4 I4	7213-4 B3		
3202-1 I4	7213-5 C3		
3202-2 I4	7213-6 C3		
3202-3 I4	7214 A2		
3202-4 I4	F210 A17		
3203-1 I4	F211 C9		
3203-2 I4	F212 E16		
3203-3 I4	F213 E16		
3203-4 I4	F214 E16		
3204-1 J4	F215 E16		
3204-2 J4	F217 I17		
3204-3 J4	F218 I15		
3204-4 J4	F219 I15		
3210 C16	F220 I15		
3211 D8	F221 I15		
3212 D2	F222 I15		
3213 C15	F223 I15		
3215 D2	F224 I15		
3216 C15	F225 J15		
3217 C16	F226 J15		
3219 E1	F227 J15		
3220 E2	F228 J15		
3221 E1	F229 J15		
3222 E2	F230 J15		
3223 E16	F231 C5		
3224 E16	F232 E4		
3225 E16	I210 B5		
3226 E16	I211 A16		
3227 E16	I213 A13		
3228 G2	I214 C5		
3229 G2	I215 C16		
3230 G2	I216 B15		
3231 G2	I217 D8		
3232 G3	I218 E8		
3233 E16	I220 C15		
3235 E16	I224 C15		
3238 E16	I225 C16		
3239 K4	I230 E4		
3240 K3	I231 E4		

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SSB: PNX2015: Audio Processor

B04C AUDIO PROCESSOR

B04C

+12V_DISP
4401
4402
+AUDIO_POWER_+12V_DISP
7410 L78L08ACU
IN OUT COM
F401 +8V
2439 470n
I426
2440 470n
10u 16V
1n5
470p
2410
2409
2408
+5V_SW
3402 1R0
5401 120R
+5V_D
2411 10u
5402 120R
+5V_AUD
2414 10u
+5V_AUD
F402
2412 220p
2441 1n5
2442 470p
+5V_D
F403
2413 220p
2443 1n5
2444 470p
7411 MSP4450P-VK-E8 000
61 62 39
A AH SUP
12 13 DVSUP
2415 3p3
1411 18M432
2416 3p3
XTALIN 2V4 67
XTALOUT 2V4 68
IN OUT XTAL
Φ MULTISTANDARD SOUND PROCESSOR
RST_AUD
+5V_AUD
100n 2419
19 RESETQ
80 STNDBYQ
66 TESTEN
69 TP
IIC_SCL
IIC_SDA
3410 100R
3411 100R
RES 2446 100p
RES 2447 100p
I412
I413
2 CL
3 DA
79 ADR_SEL
I2C
MOJO_I2S_OUT_SCK
MOJO_I2S_OUT_WS
1V4
1V6
4408*
4407*
I427
I428
4 CL
5 WS
RES
HDMI_SCK
HDMI_WS
I429
I430
17 CL3
18 WS3
RES 4409
RES 4410
8 IN
9 OUT
10 CL
11 WS
DEL I2S
MOJO_I2S_OUT_SD
4411*
I431
7 1
16 2
HDMI_SD
RES 4412
I432
20 3
21 4
DA
6 DA_OUT
SIF
RES 3416 470R
5403 22u
2432 56p
2433 330p
2434 330p
2435 330p
2436 10u
2445 100n
I420
I421 1V5 63 IN1+
I422 64 IN-
I423 65 IN2+
ANA
I424 2V6 56 VREFTOP
SC1_AUDIO_IN_R
SC1_AUDIO_IN_L
55 R
54 L
SC1_IN
SC2_AUDIO_IN_R
SC2_AUDIO_IN_L
53 R
52 L
SC2_IN
COMP_AUDIO_IN_R
COMP_AUDIO_IN_L
51 R
50 L
SC3_IN
SIDE_AUDIO_IN_R_CON
4403*
SIDE_AUDIO_IN_R
SIDE_AUDIO_IN_L
49 R
48 L
SC4_IN
SIDE_AUDIO_IN_L_CON
4406*
HDMI_AUDIO_IN_R
HDMI_AUDIO_IN_L
58 R
57 L
SC5_IN
AGNDC
I425 45
2437 10u
2438 100n
VSS A AH D
59 60 43 44 14 15
VREF 1 2
35 25
AUD_CL_OUT 70
DACM R L C SUB SR SL
26 0V6
27 0V6
28
29
30
31
AUDIO_LS_R
AUDIO_LS_L
2418 330p
2417 330p
DACA R L
23 0V2
24 0V2
HP_AUDIO_OUT_R
HP_AUDIO_OUT_L
CAPL M A
40 6V7
38 6V3
2420
I414
2423
I415
10u 16V
+8V
2421 330p
2422 330p
DCTR_IO 0 1
78
77
SPDIF_OUT 76
SC1_OUT R L
36 3V8
37 3V8
I416
I417
2424 10u
2425 10u
3417 100R
3418 100R
SC1_AUDIO_OUT_R
SC1_AUDIO_OUT_L
SC2_OUT R L
33 3V8
34 3V8
I418
I419
2426 10u
2427 10u
3419 100R
3420 100R
SC2_AUDIO_OUT_R
SC2_AUDIO_OUT_L
SC3_OUT R L
41
42
2428 100p
2429 100p
2430 100p
2431 100p
NC
1 22 32 46 47 71 72 73 74 75

Item	iTV	EU- with Side AV	AP/CH/LT with Side AV	Description
4403	☐	☑	☑	RST SM 0603 JUMP. 0R05 COL
4406	☐	☑	☑	RST SM 0603 JUMP. 0R05 COL
4407	☑	☑	☐	RST SM 0603 JUMP. 0R05 COL
4408	☑	☑	☐	RST SM 0603 JUMP. 0R05 COL
4411	☑	☑	☐	RST SM 0603 JUMP. 0R05 COL

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1411 B3 I421 D4
2408 A4 I422 D4
2409 A4 I423 E4
2410 A4 I424 E4
2411 A2 I425 F4
2412 A4 I426 A3
2413 A6 I427 C4
2414 B2 I428 C4
2415 B3 I429 C2
2416 B3 I430 C2
2417 B7 I431 D4
2418 B7 I432 D2
2419 C3
2420 C6
2421 C7
2422 C7
2423 C6
2424 D7
2425 D7
2426 D7
2427 D7
2428 D6
2429 D7
2430 D7
2431 D7
2432 D2
2433 D3
2434 E3
2435 E3
2436 E3
2437 F4
2438 F4
2439 A3
2440 A3
2441 A4
2442 A4
2443 A6
2444 A6
2445 E3
2446 C3
2447 C3
3402 A1
3410 C3
3411 C3
3416 E2
3417 D8
3418 D8
3419 D8
3420 D8
4401 A2
4402 A2
4403 E3
4406 F3
4407 C3
4408 C3
4409 D3
4410 D3
4411 D3
4412 D3
5401 A1
5402 B1
5403 E2
7410 A4
7411 B4
F401 A4
F402 A4
F403 A5
I412 C3
I413 C3
I414 C6
I415 C6
I416 D6
I417 D6
I418 D6
I419 D6
I420 D3

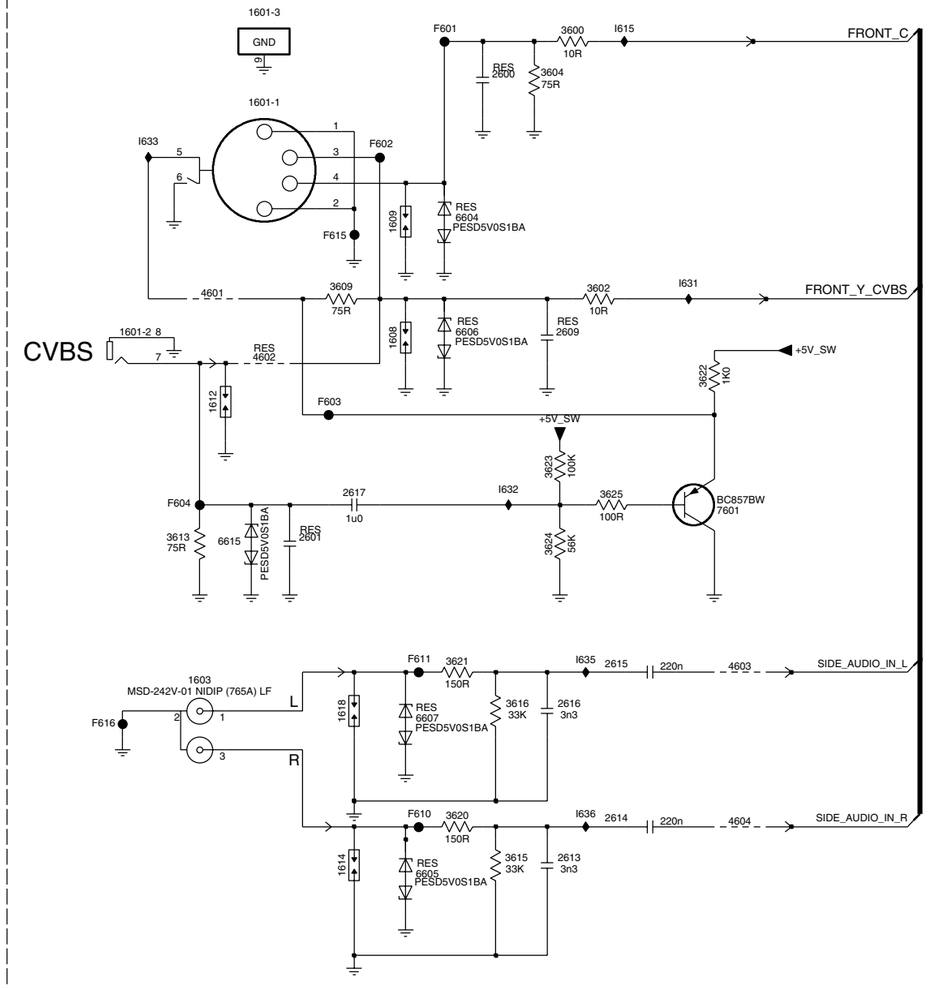
SSB: YPBPR & Rear IO

B06A YPBPR & REAR IO

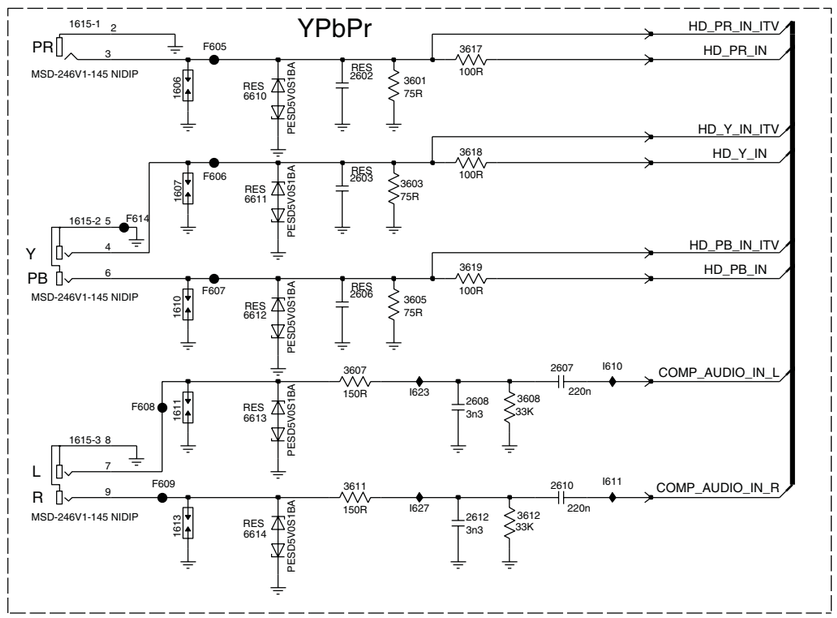
B06A

FOR NON SIDE IO / ITV

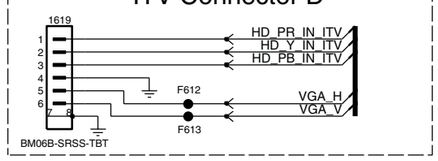
SVHS



YPbPr



ITV Connector D



1601-1 B2
1601-2 D1
1601-3 B2
1603 E2
1606 B7
1607 C7
1608 D3
1609 C3
1610 C7
1611 D7
1612 D2
1613 D7
1614 F2
1615-1 B7
1615-2 C7
1615-3 D7
1618 F2
1619 E7
2600 B3
2601 E2
2602 B8
2603 B8
2606 C8
2607 C9
2608 D9
2609 D4
2610 D9
2612 D9
2613 F4
2614 F4
2615 E4
2616 F4
2617 D2
3600 B4
3601 B8
3602 C4
3603 B8
3604 B4
3605 C8
3607 D8
3608 D9
3609 C2
3611 D8
3612 D9
3613 E1
3615 F3
3616 F3
3617 B9
3618 B9
3619 C9
3620 F3
3621 E3
3622 D4
3623 D4
3624 E4
3625 D4
4601 C2
4602 D2
4603 E5
4604 F5
6604 C3
6605 G3
6606 D3
6607 F3
6610 B8
6611 C8
6612 C8
6613 D8
6614 D8
6615 E2
7601 D4
F601 B3
F602 C3
F603 D2
F604 D1
F605 B7
F606 B7
F607 C7
F608 D7
F609 D7
F610 F3
F611 E3
F612 F7
F613 F7
F614 C7
F615 C2
F616 F1
I610 C10
I611 D10
I615 B4
I623 D9
I627 D9
I631 C4
I632 D3
I633 B1
I635 E4
I636 F4

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240107

SSB: I/O Scart 1 & 2

B06B IO - SCART 1 & 2

B06B

Item	non-iTV	iTV Analog	iTV-Digital	Description
1504	✓	✓		SOC EURO V 21P F BK R-GRND B
1506	✓	✓		SOC EURO V 21P F BK R-GRND B
1525		✓	✓	CON V 5P M 1.00 SM SR R
1526		✓	✓	CON V 8P M 1.00 SM SR R
3516	✓			RST SM 0603 100R PM5 COL
		✓	✓	RST SM 0603 680R PM5 COL
3523	✓			RST SM 0603 100R PM5 COL
		✓	✓	RST SM 0603 680R PM5 COL
3528	✓			RST SM 0603 100R PM5 COL
		✓	✓	RST SM 0603 680R PM5 COL

ITV-Connector B

1526: 1 SC1_B_IN, 2 SC1_G_IN, 3 SC1_R_IN, 4 SC1_FBL_IN, 5 SC1_AUDIO_OUT_L, 6 SC1_AUDIO_OUT_R, 7 8 9 10

ITV-Connector C

1525: 1 SC2_AUDIO_IN_R, 2 SC2_AUDIO_IN_L, 3 SC2_Y_CVBS_IN_ITV, 4 SC2_C_IN_ITV, 5

SCART 1

1504: Audio-R_out 1 F511, Audio-R_in 2 F513, Audio-L_out 3 F515, 4 F517, 5, Audio-L_in 6 F519, RGB-B_in 7 F520, Function_Sw 8 F521, 9, 10 1509, RGB-G_in 11 F522, 12 1512, 13, 14, RGB-R_in 15 F531, RGB-BL_in 16 F524, 17 F525, 18, Terr_CVBS_out 19 F526, Video_in 20 F528, 21 — PPTV/55

SC1_AUDIO_MUTE_R
SC1_AUDIO_OUT_R
SC1_AUDIO_OUT_L
SC1_AUDIO_MUTE_L
SC1_AUDIO_IN_R
SC1_AUDIO_IN_L
SC1_B_IN
SC1_STATUS
SC1_G_IN
SC1_R_IN
SC1_FBL_IN
SC1_CVBS_IN

SCART 2

1506: Audio-R_out 1 F510, Audio-R_in 2 F512, Audio-L_out 3 F514, 4 F516, 5, Audio-L_in 6 F518, 7, Function_Sw 8 F532, 9, 10 1510, 11, 12 1513, 13, 14, RGB-R_out/YC-C_in 15 F523, 16, 17, 18, CVBS_out 19 F527, Video/YC-Y_in 20 F529, 21 — PPTV/55

SC2_AUDIO_MUTE_R
SC2_AUDIO_OUT_R
SC2_AUDIO_OUT_L
SC2_AUDIO_MUTE_L
SC2_AUDIO_IN_R
SC2_AUDIO_IN_L
SC2_STATUS
SC2_C_IN_ITV
SC2_C_IN
SC2_CVBS_MON_OUT
SC2_CVBS_MON_OUT_ITV
SC2_Y_CVBS_IN_ITV
SC2_Y_CVBS_IN
SC1_RF_OUT_CVBS
SC1_CVBS_RF_OUT

+5V_SW, 5V2, 3V7, 3V

7500 BC847B, 7502 BC857BW, 7503 BC847B, 7504 BC857BW

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250107

3139 123 6261.1

1500 C9 6522 C10
1501 C9 6523 C10
1502 C3 6524 E10
1503 D9 6525 G9
1504 C2 7500 G10
1505 C3 7502 G11
1506 D8 7503 I11
1507 D3 7504 I11
1508 E9 F510 D9
1509 D2 F511 C2
1510 E9 F512 D9
1511 D3 F513 C2
1512 E2 F514 D9
1513 E9 F515 C2
1514 E9 F516 D9
1515 F9 F517 C2
1516 E3 F518 D9
1517 E3 F519 D2
1518 G9 F520 D2
1519 F3 F521 D2
1520 G3 F522 D2
1521 H9 F523 F9
1522 G3 F524 E2
1523 H3 F525 E2
1524 H3 F526 F2
1525 A2 F527 F9
1526 A1 F528 F2
2502 C10 F529 F9
2506 C10 F530 H5
2508 B4 F531 E2
2509 D12 F532 E9
2512 D10 F534 B4
2514 C4 F535 C4
2515 C5 F536 C4
2517 D4 F537 D4
2518 D12 F538 E5
2520 E10 F539 E4
2521 D5 F540 F4
2523 D4 F541 F5
2524 F10 F542 G4
2525 G10 F543 D11
2526 G10 F544 D11
2527 F4 I510 B11
2528 E4 I512 C11
2529 F4 I517 D12
2530 H10 I520 D12
2531 G4 I528 G12
2533 I11 I530 G10
2534 I10 I533 H12
2535 H3 I540 C5
2536 G10 I541 D5
2538 H3 I543 G10
3500 B10 I544 G12
3502 C10 I545 E11
3503 B4 I548 I11
3506 D10 I549 I11
3507 C4 I550 G4
3508 D11 I551 G10
3510 C4 I552 G11
3511 D4 I553 I11
3512 D10 I554 I12
3513 E11 I556 H12
3514 D4 I557 F12
3515 D4
3516 E4
3517 E4
3518 E3
3519 G10
3520 E4
3521 G12
3522 G10
3523 F4
3524 I11
3525 G10
3526 F4
3528 F4
3529 H10
3530 G4
3531 H10
3532 G4
3533 G4
3535 H3
3536 H4
3537 I12
3538 G11
3540 I12
3545 H4
3546 H4
3550 E10
3551 E10
3552 F11
3553 F11
3554 I12
3555 H12
4502 G11
4504 I12
6501 D10
6504 D3
6505 E10
6507 D3
6509 F10
6510 H9
6511 H3
6512 G5
6513 G5
6514 E3
6515 F3
6516 G3
6517 H3
6518 C3
6519 C3
6520 E3
6521 G3

SSB: HDMI

B06C HDMI

B06C

HDMI CONNECTOR-1
HDMI CONNECTOR-2
DC1R019BAR190
BC847BW
UDA1334ATS
AUDIO DAC
EEPROM (256x8)
M24C02-WMN6
BSN20
SII9025CTU
MAIN
POWER
RES
VIA

3139 123 6261.1

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240107

1810 A1
1811 D1
1823 H8
2801 G3
2802 H3
2803 C7
2804 A7
2805 G3
2806 H3
2807 H2
2808 H2
2809 H8
2810 H6
2811 H2
2812 I2
2813 H8
2814 I2
2815 I2
2816 B11
2817 B11
2818 C11
2819 B11
2828 H8
2829 B10
2830 B10
2833 B11
2835 B12
2836 B12
2838 B12
2839 B12
2840 B12
2843 B13
2844 B13
2845 B13
2847 C10
2848 C10
2849 C11
2850 C11
2851 C11
2852 C11
2853 C12
2854 C12
2855 C12
2856 C12
2857 C12
2858 C13
2859 C13
2860 C13
2861 C13
2865 C10
2866 C10
2867 C11
2868 C11
2869 C11
2870 C12
2871 C12
2872 C12
2873 C12
2874 C12
2875 C13
2876 C13
3801 C6
3802 C7
3803 G3
3804 G3
3805 I2
3806 I2
3807-1 I5
3807-2 I5
3807-3 I5
3807-4 I5
3809 H5
3810 C6
3811 H8
3815 H8
3819 I8
3828 D7
3830 A6
3831 A6
3832 A7
3833 B7
3834 B7
3835 E11
3846 E7
3850 H7
3851-1 E11
3851-2 E11
3851-3 E11
3851-4 F11
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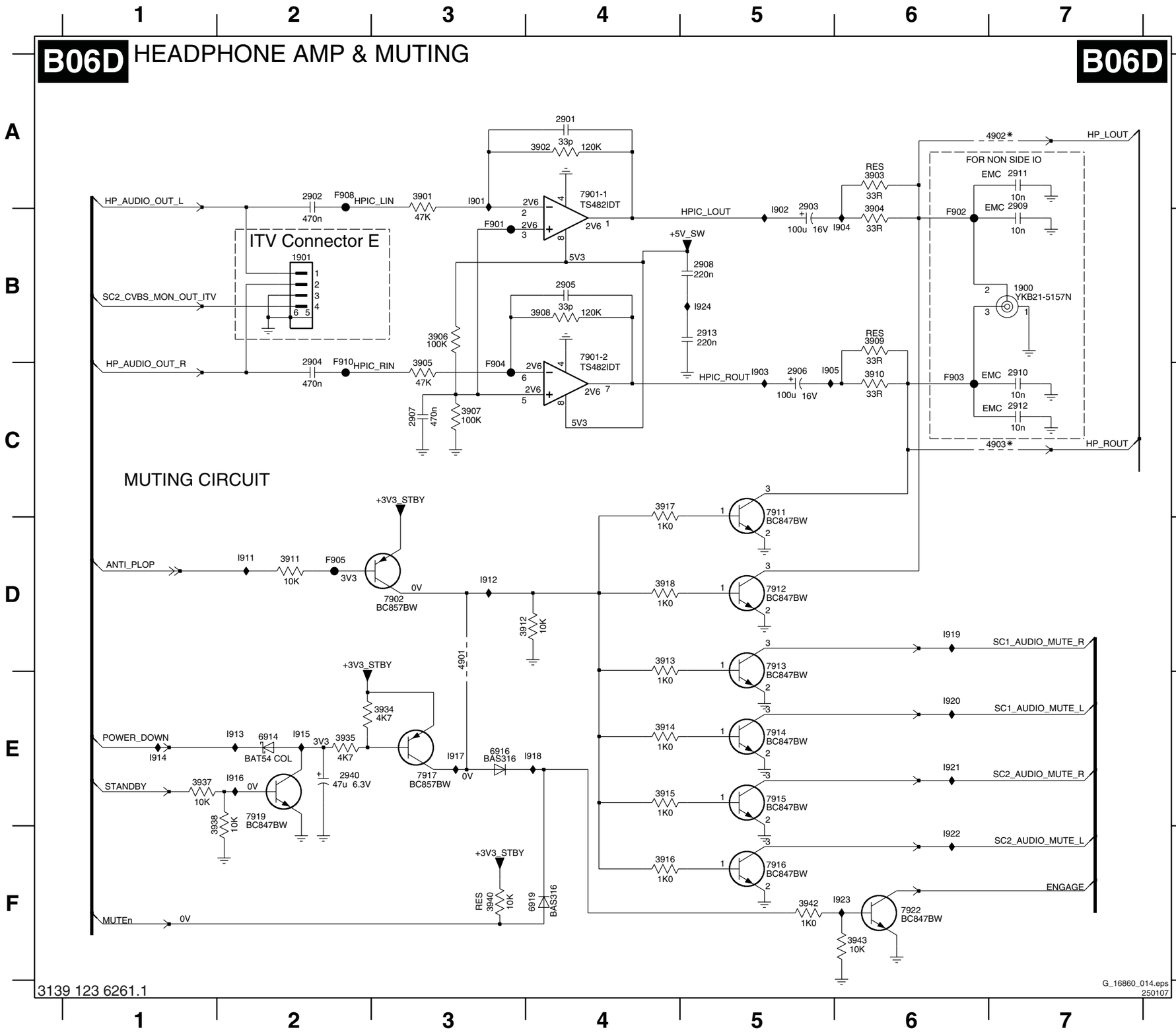
3852-3 F11
3852-4 F11
3853-1 F11
3853-2 F11
3853-3 G11
3853-4 G11
3854-1 G11
3854-2 G11
3854-3 G11
3854-4 G11
3855-1 H11
3855-2 H11
3855-3 H11
3855-4 H11
3856-1 H11
3856-2 H11
3856-3 H11
3856-4 I11
3857 I11
3858 I11
3859 I11
3860 I11
3862 B2
3863 C2
3864 C2
3877 C3
3880 E2
3881 F2
3882 F2
3883 F3
3884 I6
3885 I7
3886 I7
3896 G5
3897 G5
4802 H6
4803 H6
4804 A6
4805 C6
5810 A11
5811 A11
5812 A11
5813 A12
5814 A12
5815 A13
5816 A13
5817 A10
5818 A13
6801 C5
6802 C5
6830 A5
6831 A5
7810 I3
7811 C5
7812 D7
7813 E7
7814 C2
7816 C3
7817-1 E9
7817-2 D10
7817-3 C9
7824 H5
7825 H7
7850 A5
7851 B7
7852 B7
7860 F2
7861 F3
F601 G3
F802 H4
F805 I12
F806 I12
F832 A1
F840 B1
F841 B1
F842 B1
F843 B1
F850 H6
F851 H7
F861 D1
F869 E1
F870 E1
F871 E1
F872 E1
F873 C6
F874 A6
F875 D13
F876 F6
F877 G6
I801 H2
I802 H2
I803 H3
I804 I2
I805 I2
I806 I2
I813 I12
I814 I12
I820 D7
I821 E7
I822 B7
I823 C7
I828 I6
I831 C2
I833 C2
I840 C3
I841 C3
I842 F3
I843 F3
I844 G6
I845 G6
I846 H8
I847 H9
I848 I8
I850 A10
I851 A11
I852 A11
I853 A12
I854 A12
I855 A13
I856 A13
I857 A13
I858 A11
I861 F2
I862 H9
I863 H3
I864 I7
I865 I7
I866 I7

SSB: Headphone Amp & Muting



1900 B7 I915 E2
1901 B2 I916 E2
2901 A4 I917 E3
2902 A2 I918 E4
2903 B5 I919 D6
2904 C2 I920 E6
2905 B4 I921 E6
2906 C5 I922 F6
2907 C3 I923 F6
2908 B5 I924 B5
2909 A7
2910 C7
2911 A7
2912 C7
2913 B5
2940 E2
3901 A3
3902 A4
3903 A6
3904 B6
3905 C3
3906 B3
3907 C3
3908 B4
3909 B6
3910 C6
3911 D2
3912 D4
3913 D4
3914 E4
3915 E4
3916 F4
3917 C4
3918 D4
3934 E3
3935 E2
3937 E1
3938 E2
3940 F3
3942 F5
3943 F6
4901 D3
4902 A7
4903 C7
6914 E2
6916 E3
6919 F4
7901-1 A4
7901-2 B4
7902 D3
7911 C5
7912 D5
7913 D5
7914 E5
7915 E5
7916 F5
7917 E3
7919 E2
7922 F6
F901 B3
F902 B6
F903 C6
F904 C3
F905 D2
F908 A2
F910 B2
I901 A3
I902 B5
I903 C5
I904 B6
I905 C5
I911 D2
I912 D3
I913 E2
I914 E1

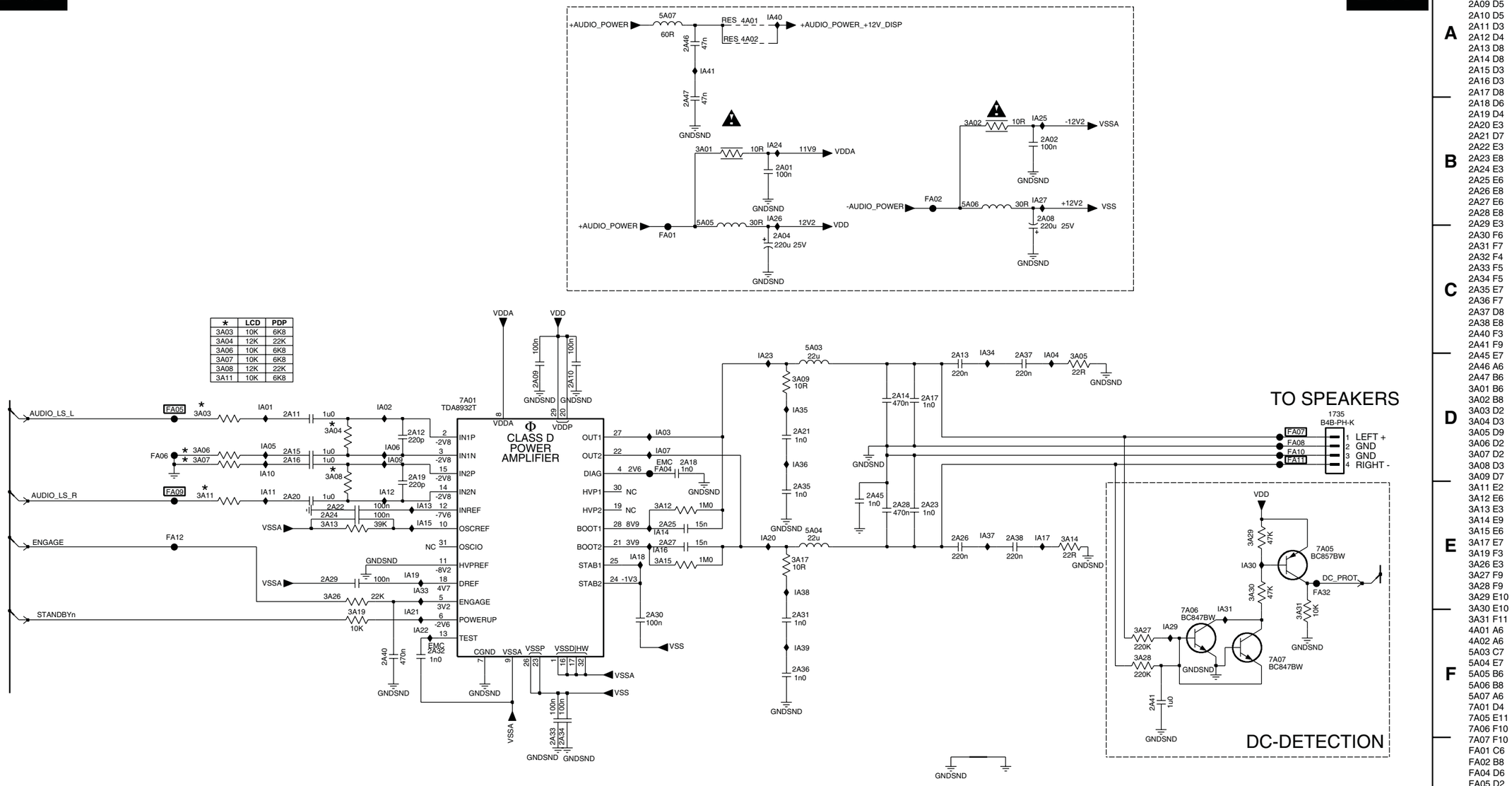
Item	EU iTV	non-iTV	US iTV	Description
1901	✓	–	✓	CON V 4P M 1.00 SM SR R
2901	✓	✓	–	CER1 0603 NP0 50V 33P COL
2902	✓	✓	–	CER2 0603 Y5V 10V 470N COL
2903	✓	✓	–	ELCAP SM 16V 100U PM20 COL R
2904	✓	✓	–	CER2 0603 Y5V 10V 470N COL
2905	✓	✓	–	CER1 0603 NP0 50V 33P COL
2906	✓	✓	–	ELCAP SM 16V 100U PM20 COL R
2907	✓	✓	–	CER2 0603 Y5V 10V 470N COL
2909	✓	–	–	CER2 0603 X7R 50V 10N COL
2910	✓	–	–	CER2 0603 X7R 50V 10N COL
2911	✓	–	–	CER2 0603 X7R 50V 10N COL
2912	✓	–	–	CER2 0603 X7R 50V 10N COL
3901	✓	✓	–	RST SM 0603 47K PM5 COL
3902	✓	✓	–	RST SM 0603 RC21 120K PM5 R
3904	✓	✓	–	RST SM 0603 33R PM5 COL
3905	✓	✓	–	RST SM 0603 47K PM5 COL
3906	✓	✓	–	RST SM 0603 100K PM5 COL
3907	✓	✓	–	RST SM 0603 100K PM5 COL
3908	✓	✓	–	RST SM 0603 RC21 120K PM5 R
3910	✓	✓	–	RST SM 0603 33R PM5 COL
3917	✓	✓	–	RST SM 0603 1K PM5 COL
3918	✓	✓	–	RST SM 0603 1K PM5 COL
4902	–	✓	–	RST SM 0603 JUMP. 0R05 COL
4903	–	✓	–	RST SM 0603 JUMP. 0R05 COL
7901	✓	✓	–	IC SM TS482ID (ST00) R
7911	✓	✓	–	TRA SIG SM BC847BW (COL) R
7912	✓	✓	–	TRA SIG SM BC847BW (COL) R

SSB: Audio

B07 AUDIO

B07

*	LCD	PDP
3A03	10K	6K8
3A04	12K	22K
3A06	10K	6K8
3A07	10K	6K8
3A08	12K	22K
3A11	10K	6K8



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1735 D11 IA02 D3
2A01 B7 IA03 D6
2A02 B9 IA04 D9
2A04 C7 IA05 D3
2A08 B9 IA06 D4
2A09 D5 IA07 D6
2A10 D5 IA09 D4
2A11 D3 IA10 D3
2A12 D4 IA11 E3
2A13 D8 IA12 E3
2A14 D8 IA13 E4
2A15 D3 IA14 E6
2A16 D3 IA15 E4
2A17 D8 IA16 E6
2A18 D6 IA17 E9
2A19 D4 IA18 E5
2A20 E3 IA19 E4
2A21 D7 IA20 E6
2A22 E3 IA21 F4
2A23 E8 IA22 F4
2A24 E3 IA23 D6
2A25 E6 IA24 B7
2A26 E8 IA25 B9
2A27 E6 IA26 B7
2A28 E8 IA27 B9
2A29 E3 IA29 F10
2A30 F6 IA30 E10
2A31 F7 IA31 E10
2A32 F4 IA33 E4
2A33 F5 IA34 C8
2A34 F5 IA35 D7
2A35 E7 IA36 D7
2A36 F7 IA37 E8
2A37 D8 IA38 E7
2A38 E8 IA39 F7
2A40 F3 IA40 A7
2A41 F9 IA41 A6
2A45 E7
2A46 A6
2A47 B6
3A01 B6
3A02 B8
3A03 D2
3A04 D3
3A05 D9
3A06 D2
3A07 D2
3A08 D3
3A09 D7
3A11 E2
3A12 E6
3A13 E3
3A14 E9
3A15 E6
3A17 E7
3A19 F3
3A26 E3
3A27 F9
3A28 F9
3A29 E10
3A30 E10
3A31 F11
4A01 A6
4A02 A6
5A03 C7
5A04 E7
5A05 B6
5A06 B8
5A07 A6
7A01 D4
7A05 E11
7A06 F10
7A07 F10
FA01 C6
FA02 B8
FA04 D6
FA05 D2
FA06 D2
FA07 D11
FA08 D11
FA09 E2
FA10 D11
FA11 D11
FA12 E2
FA32 E11
IA01 D3

SSB: SRP List

1.1. Introduction

SRP (Service Reference Protocol) is a software tool that creates a list with all references to signal lines. The list contains references to the signals within all schematics of a PWB. It replaces the text references currently printed next to the signal names in the schematics. These printed references are created manually and are therefore not guaranteed to be 100% correct. In addition, in the current crowded schematics there is often none or very little place for these references.
Some of the PWB schematics will use SRP while others will still use the manual references. Either there will be an SRP reference list for a schematic, or there will be printed references in the schematic.

1.2. Non-SRP Schematics

There are several different signals available in a schematic:

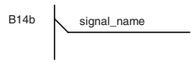
1.2.1. Power Supply Lines

All power supply lines are available in the supply line overview (see chapter 6). In the schematics (see chapter 7) is not indicated where supplies are coming from or going to.
It is however indicated if a supply is incoming (created elsewhere), or outgoing (created or adapted in the current schematic).

Outgoing Incoming

1.2.2. Normal Signals

For normal signals, a schematic reference (e.g. B14b) is placed next to the signals.

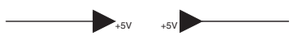


1.2.3. Grounds

For normal and special grounds (e.g. GNDHOT or GND3V3 etc.), nothing is indicated.

1.3. SRP Schematics

SRP is a tool, which automatically creates a list with signal references, indicating on which schematic the signals are used.
A reference is created for all signals indicated with an SRP symbol, these symbols are:

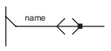


Power supply line.

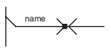
Stand alone signal or switching line (used as less as possible).

Signal line into a wire tree.

Switching line into a wire tree.



Bi-directional line (e.g. SDA) into a wire tree.



Signal line into a wire tree, its direction depends on the circuit (e.g. ingoing for PDP, outgoing for LCD sets).

Remarks:

- When there is a black dot on the "signal direction arrow" it is an SRP symbol, so there will be a reference to the signal name in the SRP list.
- All references to normal grounds (Ground symbols without additional text) are not listed in the reference list, this to keep it concise.
- Signals that are not used in multiple schematics, but only once or several times in the same schematic, are included in the SRP reference list, but only with one reference.

Additional Tip:

When using the PDF service manual file, you can very easily search for signal names and follow the signal over all the schematics. In Adobe PDF reader:

- Select the signal name you want to search for, with the "Select text" tool.
- Copy and paste the signal name in the "Search PDF" tool.
- Search for all occurrences of the signal name.
- Now you can quickly jump between the different occurrences and follow the signal over all schematics. It is advised to "zoom in" to e.g. 150% to see clearly, which text is selected. Then you can zoom out, to get an overview of the complete schematic.

PS. It is recommended to use at least Adobe PDF (reader) version 6.x, due to better search possibilities in this version.

Netname	Schematic
+12V_DISP	B02 (1x)
+12V_DISP	B04A (1x)
+12V_DISP	B04B (1x)
+1V2_MOJO	B02 (1x)
+1V2_MOJO	B03D (2x)
+1V8S_SW	B02 (1x)
+1V8S_SW	B03B (2x)
+1V8S_SW	B03F (1x)
+1V8S_SW	B04B (3x)
+1V8S_SW	B06C (3x)
+3V3	B03B (3x)
+3V3	B03C (3x)
+3V3	B03D (8x)
+3V3	B03E (2x)
+3V3	B03F (1x)
+3V3_BUF	B03C (4x)
+3V3_CORE	B03C (2x)
+3V3_MOJO	B02 (1x)
+3V3_MOJO	B03F (2x)
+3V3_NOR48	B03E (4x)
+3V3_STBY	B02 (1x)
+3V3_STBY	B04A (30x)
+3V3_STBY	B06D (3x)
+3V3_STV	B03C (10x)
+3V3_SW	B02 (1x)
+3V3_SW	B04A (8x)
+3V3_SW	B04B (13x)
+3V3_SW	B06C (19x)
+3V3_VDDP	B03D (3x)
+3V3clean	B03D (1x)
+3V3clean	B03F (1x)
+3V3FE	B03B (5x)
+5V_AUD	B04C (3x)
+5V_D	B04C (2x)
+5V_IF	B03A (4x)
+5V_STANDBY	B02 (4x)
+5V_STANDBY	B04A (4x)
+5V_STANDBY	B04B (2x)
+5V_SW	B02 (6x)
+5V_SW	B03A (4x)
+5V_SW	B03B (9x)
+5V_SW	B03C (2x)
+5V_SW	B03E (3x)
+5V_SW	B04A (1x)
+5V_SW	B04B (2x)
+5V_SW	B04C (2x)
+5V_SW	B06A (2x)
+5V_SW	B06B (2x)
+5V_SW	B06D (1x)
+5VHDMI_A	B06C (3x)
+5VHDMI_B	B06C (3x)
+5VS	B03A (3x)
+8V	B04C (2x)
+AUDIO_POWER	B02 (1x)
+AUDIO_POWER	B04C (1x)
+AUDIO_POWER	B06A (1x)
+AUDIO_POWER	B07 (1x)
+IO_POWER	B06A (10x)
+IO_POWER	B06B (7x)
+VTUN	B02 (1x)
+VTUN	B03A (1x)
+VTUN	B04A (1x)
10046_TDO	B03B (1x)
10046_TDO	B03D (1x)
4MHZ_CLK	B03A (1x)
4MHZ_CLK	B03B (1x)
4MHz_MOJO	B03B (1x)
4MHz_MOJO	B03D (1x)
A(0)	B04A (1x)
A(0)	B04B (1x)
A(0:7)	B04A (1x)
A(0:7)	B04B (1x)
A(1)	B04A (2x)
A(1)	B04B (1x)
A(1:7)	B04A (1x)
A(10)	B04A (2x)
A(11)	B04A (2x)
A(12)	B04A (2x)
A(13)	B04A (2x)
A(14)	B04A (2x)
A(15)	B04A (2x)
A(16)	B04A (2x)
A(17)	B04A (2x)
A(18)	B04A (2x)
A(19)	B04A (2x)
A(2)	B04A (2x)
A(2)	B04B (1x)
A(3)	B04A (2x)
A(3)	B04B (1x)
A(4)	B04A (2x)
A(4)	B04B (1x)
A(5)	B04A (2x)
A(5)	B04B (1x)
A(6)	B04A (2x)
A(6)	B04B (1x)
A(7)	B04A (2x)
A(7)	B04B (1x)
A(8)	B04A (2x)
A(8:19)	B04A (2x)
A(9)	B04A (2x)
A_MICLK	B03C (1x)
A_MISTRT	B03C (1x)
A_MIVAL	B03C (1x)
A_MOCLK	B03C (1x)
A_MOSTRT	B03C (1x)
A_MOVAL	B03C (1x)
AD(0)	B04A (2x)
AD(0)	B04B (1x)
AD(0:7)	B04A (2x)
AD(0:7)	B04B (1x)
AD(1)	B04A (2x)
AD(1)	B04B (1x)
AD(2)	B04A (2x)
AD(2)	B04B (1x)
AD(3)	B04A (2x)
AD(3)	B04B (1x)
AD(4)	B04A (2x)
AD(4)	B04B (1x)
AD(5)	B04A (2x)
AD(5)	B04B (1x)
AD(6)	B04A (2x)
AD(6)	B04B (1x)
AD(7)	B04A (2x)
AD(7)	B04B (1x)
ALE_EMU	B04A (1x)
ALE_EMU	B04B (1x)
ANTI_PLOP	B04A (1x)
ANTI_PLOP	B06D (1x)
AUDIO_LS_L	B04C (1x)
AUDIO_LS_L	B07 (1x)
AUDIO_LS_R	B04C (1x)
AUDIO_LS_R	B07 (1x)
-AUDIO_POWER	B02 (1x)
-AUDIO_POWER	B07 (1x)
BACKLIGHT_BOOST	B02 (1x)
BACKLIGHT_BOOST	B04A (1x)
BL_ADJUST	B02 (1x)
BL_ADJUST	B04A (1x)
BL_ADJUST	B04B (1x)
BL_ON_OFF	B02 (1x)
BL_ON_OFF	B04A (1x)
BOLT_ON_SCL	B04A (2x)
BOLT_ON_SDA	B04A (2x)
CE	B04A (1x)
COMP_AUDIO_IN_L	B04C (1x)
COMP_AUDIO_IN_L	B06A (1x)
COMP_AUDIO_IN_R	B04C (1x)
COMP_AUDIO_IN_R	B06A (1x)
CPU_RST	B04A (1x)
CS	B04A (1x)
CS	B04B (1x)
CTRL_DISP1	B04B (2x)
CTRL_DISP1_up	B04A (1x)
CTRL_DISP1_up	B04B (1x)
CTRL_DISP2	B04B (2x)
CTRL_DISP3	B04B (2x)
CTRL_DISP4	B04B (2x)
CTRL_DISP4_up	B04A (1x)
CTRL_DISP4_up	B04B (1x)
CVBS_RF	B03A (1x)
CVBS_RF	B04B (1x)
CX_AVDD_ADC1	B04B (2x)
CX_AVDD_ADC2	B04B (2x)
CX_AVDD_ADC3	B04B (2x)
CX_AVDD_ADC4	B04B (2x)
CX_AVDD3_ADC1	B04B (2x)
CX_AVDD3_ADC2	B04B (2x)
CX_AVDD3_BG_ASS	B04B (2x)
CX_AVDD3_OUTBUF	B04B (2x)
CX_PAVDD	B04B (2x)
CX_PAVDD1	B04B (2x)
CX_PAVDD2	B04B (2x)
CX_PDVDD	B04B (2x)
DC_PROT	B04A (1x)
DC_PROT	B07 (1x)
DDC_RESET	B04A (1x)
DDC_RESET	B06C (2x)
DVB_SW	B03A (1x)
DVB_SW	B04A (1x)
E_PAGE	B04A (1x)
ENGAGE	B06D (1x)
ENGAGE	B07 (1x)
FE_LOCK	B03B (1x)
FE_LOCK	B03D (1x)
FRONT_C_IN	B04B (1x)
FRONT_C_IN	B06A (1x)
FRONT_Y_CVBS_IN	B04B (1x)
FRONT_Y_CVBS_IN	B06A (1x)
GNDDC	B02 (1x)
GNDSND	B02 (3x)
GNDSND	B07 (21x)
GNDTUN	B02 (1x)
HD_PB_IN	B04B (1x)
HD_PB_IN	B06A (2x)
HD_PR_IN	B04B (1x)
HD_PR_IN	B06A (2x)
HD_Y_IN	B04B (1x)
HD_Y_IN	B06A (2x)
HDMI_AUDIO_IN_L	B04C (1x)
HDMI_AUDIO_IN_L	B06C (1x)
HDMI_AUDIO_IN_R	B04C (1x)
HDMI_AUDIO_IN_R	B06C (1x)
HDMI_Cb(0)	B04B (1x)
HDMI_Cb(0)	B06C (1x)
HDMI_Cb(0:7)	B04B (1x)
HDMI_Cb(0:7)	B06C (1x)
HDMI_Cb(1)	B04B (1x)
HDMI_Cb(1)	B06C (1x)
HDMI_Cb(2)	B04B (1x)
HDMI_Cb(2)	B06C (1x)
HDMI_Cb(3)	B04B (1x)
HDMI_Cb(3)	B06C (1x)
HDMI_Cb(4)	B04B (1x)
HDMI_Cb(4)	B06C (1x)
HDMI_Cb(5)	B04B (1x)
HDMI_Cb(5)	B06C (1x)
HDMI_Cb(6)	B04B (1x)
HDMI_Cb(6)	B06C (1x)
HDMI_Cb(7)	B04B (1x)
HDMI_Cb(7)	B06C (1x)
HDMI_Cr(0)	B04B (1x)
HDMI_Cr(0)	B06C (1x)
HDMI_Cr(0:7)	B04B (1x)
HDMI_Cr(0:7)	B06C (1x)
HDMI_Cr(1)	B04B (1x)
HDMI_Cr(1)	B06C (1x)
HDMI_Cr(2)	B04B (1x)
HDMI_Cr(2)	B06C (1x)
HDMI_Cr(3)	B04B (1x)
HDMI_Cr(3)	B06C (1x)
HDMI_Cr(4)	B04B (1x)
HDMI_Cr(4)	B06C (1x)
HDMI_Cr(5)	B04B (1x)
HDMI_Cr(5)	B06C (1x)
HDMI_Cr(6)	B04B (1x)
HDMI_Cr(6)	B06C (1x)
HDMI_Cr(7)	B04B (1x)
HDMI_Cr(7)	B06C (1x)
HDMI_DE	B04B (1x)
HDMI_DE	B06C (1x)
HDMI_H	B04B (1x)
HDMI_H	B06C (1x)
HDMI_HOTPLUG_RESET	B04A (1x)
HDMI_HOTPLUG_RESET	B06C (2x)
HDMI_INT	B04A (1x)
HDMI_INT	B06C (1x)
HDMI_V	B04B (1x)
HDMI_V	B06C (1x)
HDMI_VCLK	B04B (1x)
HDMI_VCLK	B06C (1x)
HDMI_Y(0)	B04B (1x)
HDMI_Y(0)	B06C (1x)
HDMI_Y(0:7)	B04B (1x)
HDMI_Y(0:7)	B06C (1x)
HDMI_Y(1)	B04B (1x)
HDMI_Y(1)	B06C (1x)
HDMI_Y(2)	B04B (1x)
HDMI_Y(2)	B06C (1x)
HDMI_Y(3)	B04B (1x)
HDMI_Y(3)	B06C (1x)
HDMI_Y(4)	B04B (1x)
HDMI_Y(4)	B06C (1x)
HDMI_Y(5)	B04B (1x)
HDMI_Y(5)	B06C (1x)
HDMI_Y(6)	B04B (1x)
HDMI_Y(6)	B06C (1x)
HDMI_Y(7)	B04B (1x)
HDMI_Y(7)	B06C (1x)
HP_AUDIO_OUT_L	B04C (1x)
HP_AUDIO_OUT_L	B06D (1x)
HP_AUDIO_OUT_R	B04C (1x)
HP_AUDIO_OUT_R	B06D (1x)
I2C_LOCAL_SCL	B03B (1x)
I2C_LOCAL_SCL	B03C (1x)
I2C_LOCAL_SCL	B03D (1x)
I2C_LOCAL_SCL	B03E (1x)
I2C_LOCAL_SDA	B03B (1x)
I2C_LOCAL_SDA	B03C (1x)
I2C_LOCAL_SDA	B03D (1x)
I2C_LOCAL_SDA	B03E (1x)
I2C_TDA_SCL	B03B (1x)
I2C_TDA_SDA	B03A (1x)
I2C_TDA_SDA	B03B (1x)
IBO_B_IN	B03F (1x)
IBO_B_IN	B04B (1x)
IBO_CVBS_IN	B03F (1x)
IBO_CVBS_IN	B04B (1x)
IBO_G_IN	B03F (1x)
IBO_G_IN	B04B (1x)
IBO_IRQ	B03D (1x)
IBO_IRQ	B04A (1x)
IBO_R_IN	B03F (1x)
IBO_R_IN	B04B (1x)
IF_AGC_IBO	B03A (1x)
IF_AGC_IBO	B03B (1x)
IF_ATV	B03A (2x)
IIC_SCL	B03A (2x)
IIC_SCL	B03D (1x)
IIC_SCL	B04A (1x)
IIC_SCL	B04B (2x)
IIC_SCL	B04C (1x)
IIC_SCL	B06C (1x)
IIC_SCL_up	B04A (2x)
IIC_SDA	B03A (2x)
IIC_SDA	B03D (1x)
IIC_SDA	B04A (1x)
IIC_SDA	B04B (2x)
IIC_SDA	B04C (1x)
IIC_SDA	B06C (1x)
IIC_SDA_up	B04A (2x)
INT	B04A (1x)
INT	B04B (1x)
ISP	B04A (1x)
ITV_SPI_CLK	B04A (2x)
ITV_SPI_DATA_IN	B04A (2x)
JTAG_TCK	B03B (1x)
JTAG_TCK	B03C (1x)
JTAG_TCK	B03D (1x)
JTAG_TMS	B03B (1x)
JTAG_TMS	B03C (1x)
JTAG_TMS	B03D (1x)
JTAG_TRST	B03B (1x)
JTAG_TRST	B03C (1x)
JTAG_TRST	B03D (1x)
KEYB	B04A (2x)
LCD_PWR_ON	B04A (1x)
LCD_PWR_ON	B04B (1x)
LED1	B04A (2x)
LED2	B04A (2x)
LIGHT_SENSOR	B04A (2x)
MIU_ADDR(0)	B03C (1x)
MIU_ADDR(0)	B03D (1x)
MIU_ADDR(0:24)	B03D (1x)
MIU_ADDR(1)	B03C (1x)
MIU_ADDR(1)	B03D (1x)
MIU_ADDR(1)	B03E (1x)
MIU_ADDR(10)	B03D (1x)
MIU_ADDR(10)	B03E (1x)
MIU_ADDR(10)	B03C (1x)
MIU_ADDR(11)	B03C (1x)
MIU_ADDR(11)	B03D (1x)
MIU_ADDR(11)	B03E (1x)
MIU_ADDR(12)	B03C (1x)
MIU_ADDR(12)	B03D (1x)
MIU_ADDR(12)	B03E (1x)
MIU_ADDR(13)	B03C (1x)
MIU_ADDR(13)	B03D (1x)
MIU_ADDR(13)	B03E (1x)
MIU_ADDR(14)	B03C (1x)
MIU_ADDR(14)	B03D (1x)
MIU_ADDR(14)	B03E (1x)
MIU_ADDR(15)	B03C (1x)
MIU_ADDR(15)	B03D (1x)
MIU_ADDR(15)	B03E (1x)
MIU_ADDR(16)	B03C (1x)
MIU_ADDR(16)	B03D (1x)
MIU_ADDR(16)	B03E (1x)
MIU_ADDR(17)	B03C (1x)
MIU_ADDR(17)	B03D (1x)
MIU_ADDR(17)	B03E (1x)
MIU_ADDR(18)	B03C (1x)
MIU_ADDR(18)	B03D (1x)
MIU_ADDR(18)	B03E (1x)
MIU_ADDR(19)	B03C (1x)
MIU_ADDR(19)	B03D (1x)
MIU_ADDR(19)	B03E (1x)
MIU_ADDR(2)	B03C (1x)
MIU_ADDR(2)	B03D (1x)
MIU_ADDR(2)	B03E (1x)
MIU_ADDR(20)	B03C (1x)
MIU_ADDR(20)	B03D (1x)
MIU_ADDR(20)	B03E (1x)
MIU_ADDR(21)	B03C (1x)
MIU_ADDR(21)	B03D (1x)
MIU_ADDR(21)	B03E (1x)
MIU_ADDR(22)	B03C (1x)
MIU_ADDR(22)	B03D (1x)
MIU_ADDR(22)	B03E (1x)
MIU_ADDR(23)	B03C (1x)
MIU_ADDR(23)	B03D (1x)
MIU_ADDR(24)	B03C (1x)
MIU_ADDR(24)	B03D (1x)
MIU_ADDR(3)	B03C (1x)
MIU_ADDR(3)	B03D (1x)
MIU_ADDR(3)	B03E (1x)
MIU_ADDR(4)	B03C (1x)
MIU_ADDR(4)	B03D (1x)
MIU_ADDR(4)	B03E (1x)
MIU_ADDR(5)	B03C (1x)
MIU_ADDR(5)	B03D (1x)
MIU_ADDR(5)	B03E (1x)
MIU_ADDR(6)	B03C (1x)
MIU_ADDR(6)	B03D (1x)
MIU_ADDR(6)	B03E (1x)
MIU_ADDR(7)	B03C (1x)
MIU_ADDR(7)	B03D (1x)
MIU_ADDR(7)	B03E (1x)
MIU_ADDR(8)	B03C (1x)
MIU_ADDR(8)	B03D (1x)
MIU_ADDR(8)	B03E (1x)
MIU_ADDR(9)	B03C (1x)
MIU_ADDR(9)	B03D (1x)
MIU_ADDR(9)	B03E (1x)
MIU_DATA(0)	B03C (1x)
MIU_DATA(0)	B03D (1x)
MIU_DATA(0)	B03E (1x)
MIU_DATA(0:15)	B03D (1x)
MIU_DATA(0:15)	B03E (1x)
MIU_DATA(1)	B03C (1x)
MIU_DATA(1)	B03D (1x)
MIU_DATA(1)	B03E (1x)
MIU_DATA(10)	B03D (1x)
MIU_DATA(10)	B03E (1x)
MIU_DATA(11)	B03D (1x)
MIU_DATA(11)	B03E (1x)
MIU_DATA(12)	B03D (1x)
MIU_DATA(12)	B03E (1x)
MIU_DATA(13)	B03D (1x)
MIU_DATA(13)	B03E (1x)
MIU_DATA(14)	B03D (1x)
MIU_DATA(14)	B03E (1x)
MIU_DATA(15)	B03D (1x)
MIU_DATA(2)	B03C (1x)
MIU_DATA(2)	B03D (1x)
MIU_DATA(2)	B03E (1x)
MIU_DATA(3)	B03C (1x)
MIU_DATA(3)	B03D (1x)
MIU_DATA(3)	B03E (1x)
MIU_DATA(4)	B03C (1x)
MIU_DATA(4)	B03D (1x)
MIU_DATA(4)	B03E (1x)
MIU_DATA(5)	B03C (1x)
MIU_DATA(5)	B03D (1x)
MIU_DATA(5)	B03E (1x)
MIU_DATA(6)	B03C (1x)
MIU_DATA(6)	B03D (1x)
MIU_DATA(6)	B03E (1x)
MIU_DATA(7)	B03C (1x)
MIU_DATA(7)	B03D (1x)
MIU_DATA(7)	B03E (1x)
MIU_DATA(8)	B03C (1x)
MIU_DATA(8)	B03D (1x)
MIU_DATA(8)	B03E (1x)
MIU_DATA(9)	B03C (1x)
MIU_DATA(9)	B03D (1x)
MIU_DATA(9)	B03E (1x)
MIU_OEN	B03C (1x)
MIU_OEN	B03D (1x)
MIU_OEN	B03E (1x)
MIU_RDY	B03C (1x)
MIU_RDY	B03D (1x)
MIU_WEN	B03C (1x)
MIU_WEN	B03D (1x)
MIU_WEN	B03E (1x)
MOJO_I2S_OUT_SCK	B03D (1x)
MOJO_I2S_OUT_SCK	B04C (1x)
MOJO_I2S_OUT_SD	B03D (1x)
MOJO_I2S_OUT_SD	B04C (1x)
MOJO_I2S_OUT_WS	B03D (1x)
MOJO_I2S_OUT_WS	B04C (1x)
MUTEn	B04A (1x)
MUTEn	B06D (1x)
NOR_CS	B03D (1x)
NOR_CS	B03E (1x)
NOR_RYBY	B03D (1x)
NOR_RYBY	B03E (1x)
NOR_WP	B03D (1x)
NOR_WP	B03E (1x)
PCMCIA_5V	B03C (4x)
PCMCIA_AVCC	B03C (3x)
PCMCIA_VPP	B03C (3x)
POWER_DOWN	B02 (1x)
POWER_DOWN	B04A (1x)
POWER_DOWN	B06D (1x)
RD	B04A (1x)
RD	B04B (1x)
REMOTE	B04A (3x)
RESET_FE_n	B03B (1x)
RESET_FE_n	B03D (1x)
RESET_n	B03D (1x)
RESET_n	B03E (1x)
RESET_STV	B03C (1x)
RESET_STV	B03D (1x)
RF_AGC	B03A (2x)
RF_AGC_IBO	B03A (1x)
RF_AGC_IBO	B03B (1x)
RST	B04A (1x)
RST	B06C (1x)
RST_AUD	B04A (1x)
RST_AUD	B04C (1x)
RST_H	B04A (1x)
RST_H	B04B (1x)
RXD0	B03D (1x)
RXD0	B03F (1x)
SAW_SW	B03A (1x)
SAW_SW	B04A (1x)
SC1_AUDIO_IN_L	B04C (1x)
SC1_AUDIO_IN_L	B06B (1x)
SC1_AUDIO_IN_R	B04C (1x)
SC1_AUDIO_IN_R	B06B (1x)
SC1_AUDIO_MUTE_L	B06B (1x)
SC1_AUDIO_MUTE_L	B06D (1x)
SC1_AUDIO_MUTE_R	B06B (1x)
SC1_AUDIO_MUTE_R	B06D (1x)
SC1_AUDIO_OUT_L	B04C (1x)
SC1_AUDIO_OUT_L	B06B (2x)
SC1_AUDIO_OUT_R	B04C (1x)
SC1_AUDIO_OUT_R	B06B (2x)
SC1_B_IN	B04B (1x)
SC1_B_IN	B06B (2x)
SC1_CVBS_IN	B04B (1x)
SC1_CVBS_IN	B06B (1x)
SC1_CVBS_RF_OUT	B04A (1x)
SC1_CVBS_RF_OUT	B06B (1x)
SC1_FBL_IN	B04B (1x)
SC1_FBL_IN	B06B (2x)
SC1_G_IN	B04B (1x)
SC1_G_IN	B06B (2x)
SC1_R_IN	B04B (1x)
SC1_R_IN	B06B (2x)
SC1_RF_OUT_CVBS	B04B (1x)
SC1_RF_OUT_CVBS	B06B (1x)
SC1_STATUS	B04A (1x)
SC1_STATUS	B06B (1x)
SC2_AUDIO_IN_L	B04C (1x)
SC2_AUDIO_IN_L	B06B (2x)
SC2_AUDIO_IN_R	B04C (1x)
SC2_AUDIO_IN_R	B06B (2x)
SC2_AUDIO_MUTE_L	B06B (1x)
SC2_AUDIO_MUTE_L	B06D (1x)
SC2_AUDIO_MUTE_R	B06B (1x)
SC2_AUDIO_MUTE_R	B06D (1x)
SC2_AUDIO_OUT_L	B04C (1x)
SC2_AUDIO_OUT_L	B06B (1x)
SC2_AUDIO_OUT_R	B04C (1x)
SC2_AUDIO_OUT_R	B06B (1x)
SC2_C_IN	B04B (1x)
SC2_C_IN	B06B (2x)
SC2_CVBS_MON_OUT	B04B (1x)
SC2_CVBS_MON_OUT	B06B (1x)
SC2_CVBS_MON_OUT	B06D (1x)
SC2_STATUS	B04A (1x)
SC2_STATUS	B06B (1x)
SC2_Y_CVBS_IN	B04B (1x)
SC2_Y_CVBS_IN	B06B (2x)
SDRAM_ADDR(0)	B03D (1x)
SDRAM_ADDR(0)	B03E (1x)
SDRAM_ADDR(0:14)	B03D (1x)
SDRAM_ADDR(1)	B03D (1x)
SDRAM_ADDR(1)	B03E (1x)
SDRAM_ADDR(10)	B03D (1x)
SDRAM_ADDR(10)	B03E (1x)
SDRAM_ADDR(11)	B03D (1x)
SDRAM_ADDR(11)	B03E (1x)
SDRAM_ADDR(12)	B03D (1x)
SDRAM_ADDR(12)	B03E (1x)
SDRAM_ADDR(13)	B03D (1x)
SDRAM_ADDR(13)	B03E (1x)
SDRAM_ADDR(14)	B03D (1x)
SDRAM_ADDR(14)	B03E (1x)
SDRAM_ADDR(2)	B03D (1x)
SDRAM_ADDR(2)	B03E (1x)
SDRAM_ADDR(3)	B03D (1x)
SDRAM_ADDR(3)	B03E (1x)
SDRAM_ADDR(4)	B03D (1x)
SDRAM_ADDR(4)	B03E (1x)
SDRAM_ADDR(5)	B03D (1x)
SDRAM_ADDR(5)	B03E (1x)
SDRAM_ADDR(6)	B03D (1x)
SDRAM_ADDR(6)	B03E (1x)
SDRAM_ADDR(7)	B03D (1x)
SDRAM_ADDR(7)	B03E (1x)
SDRAM_ADDR(8)	B03D (1x)
SDRAM_ADDR(8)	B03E (1x)
SDRAM_ADDR(9)	B03D (1x)
SDRAM_ADDR(9)	B03E (1x)
SDRAM_DQM0	B03D (1x)
SDRAM_DQM0	B03E (1x)
SDRAM_DQM1	B03D (1x)
SDRAM_DQM1	B03E (1x)
SDRAM_RAS	B03D (1x)
SDRAM_RAS	B03E (1x)
SDRAM_WE	B03D (1x)
SDRAM_WE	B03E (1x)
SIDE_AUDIO_IN_L	B04C (1x)
SIDE_AUDIO_IN_L	B06A (1x)
SIDE_AUDIO_IN_R	B04C (1x)
SIDE_AUDIO_IN_R	B06A (1x)
SIF	B03A (1x)
SIF	B04C (1x)
SIF1	B03A (2x)
SIF2	B03A (2x)
STANDBY	B02 (2x)
STANDBY	B04A (2x)
STANDBY	B06D (1x)
STANDBYn	B04A (1x)
STANDBYn	B04B (1x)
STANDBYn	B07 (1x)
STV_A25	B03C (1x)
STV_A25	B03D (1x)
STV_CS	B03C (1x)
STV_CS	B03D (1x)
STV_INT	B03C (1x)
STV_INT	B03D (1x)
STV_TDO	B03B (1x)
STV_TDO	B03C (1x)
TDA_CLK	B03B (1x)
TDA_CLK	B03C (1x)
TDA_DAT(0)	B03B (1x)
TDA_DAT(0)	B03C (1x)
TDA_DAT(0:7)	B03B (1x)
TDA_DAT(1)	B03B (1x)
TDA_DAT(1)	B03C (1x)
TDA_DAT(2)	B03B (1x)
TDA_DAT(2)	B03C (1x)
TDA_DAT(3)	B03B (1x)
TDA_DAT(3)	B03C (1x)
TDA_DAT(4)	B03B (1x)
TDA_DAT(4)	B03C (1x)
TDA_DAT(5)	B03B (1x)
TDA_DAT(5)	B03C (1x)
TDA_DAT(6)	B03B (1x)
TDA_DAT(6)	B03C (1x)
TDA_DAT(7)	B03B (1x)
TDA_DAT(7)	B03C (1x)
TDA_SYNC	B03B (1x)
TDA_SYNC	B03C (1x)
TDA_VALID	B03B (1x)
TDA_VALID	B03C (1x)
TS_CLK	B03C (1x)
TS_CLK	B03D (1x)
TS_DATA(0)	B03C (1x)
TS_DATA(0)	B03D (1x)
TS_DATA(0:7)	B03D (1x)
TS_DATA(1)	B03C (1x)
TS_DATA(1)	B03D (1x)
TS_DATA(2)	B03C (1x)
TS_DATA(2)	B03D (1x)
TS_DATA(3)	B03C (1x)
TS_DATA(3)	B03D (1x)
TS_DATA(4)	B03C (1x)
TS_DATA(4)	B03D (1x)
TS_DATA(5)	B03C (1x)
TS_DATA(5)	B03D (1x)
TS_DATA(6)	B03C (1x)
TS_DATA(6)	B03D (1x)
TS_DATA(7)	B03C (1x)
TS_DATA(7)	B03D (1x)
TS_SYNC	B03C (1x)
TS_SYNC	B03D (1x)
TS_VALID	B03C (1x)
TS_VALID	B03D (1x)
TXAn	B04B (2x)
TXAp	B04B (2x)
TXBn	B04B (2x)
TXBp	B04B (2x)
TXCLKn	B04B (2x)
TXCLKp	B04B (2x)
TXCn	B04B (2x)
TXCp	B04B (2x)
TXD0	B03D (1x)
TXD0	B03F (1x)
TXDn	B04B (2x)
TXDp	B04B (2x)
user_EEPROM_WP	B03D (1x)
user_EEPROM_WP	B03E (1x)
VCCEN	B03C (1x)
VDD	B07 (3x)
VDDA	B07 (2x)
VDISP	B04B (2x)
VGA_H	B04B (1x)
VGA_H	B06A (1x)
VGA_V	B04B (1x)
VGA_V	B06A (1x)
VIF1	B03A (2x)
VIF2	B03A (2x)
VIM_IBO	B03A (1x)
VIM_IBO	B03B (1x)
VIP_IBO	B03A (1x)
VIP_IBO	B03B (1x)
VSS	B07 (3x)
VSSA	B07 (5x)
WR	B04A (1x)
WR	B04B (1x)

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Layout Small Signal Board (Overview Top Side)

1101 E3 1102 E6 1103 E6 1104 D6 1201 D7 1210 A7 1211 A7 1212 A7 1213 A7 1214 A7 1301 B6 1304 A9 1305 A8 1306 A8
1307 A8 1308 A8 1309 D8 1310 A8 1311 A5 1312 B5 1500 E10 1501 E10 1502 E9 1503 E10 1504 D9 1505 E9 1506 D10 1507 E9
1508 D10 1509 D9 1510 D10 1511 D9 1512 D9 1513 D10 1514 D10 1515 D10 1516 D9 1517 D9 1518 C10 1519 D9 1520 D9 1521 C10
1522 D9 1523 C9 1524 C9 1525 B10 1526 F10 1601 F6 1603 F6 1606 F10 1607 F10 1608 F6 1609 F6 1610 F9 1611 F9 1612 F6
1613 F9 1614 F6 1615 F9 1618 F6 1619 F10 1735 A10 1810 F7 1811 F8 1823 E8 1900 B9 1901 B10 1C01 A3 1G03 B1
1G04 B2 1G50 A7 1G51 A7 1K00 E5 1M20 A8 1P11 A5 2110 E6 2111 E6 2114 E6 2117 E6 2127 D6 2128 D6 2129 D6
2134 D6 2135 D6 2138 D6 2142 E5 2143 D6 2151 D5 2208 A6 2209 A6 2211 C6 2212 C6 2214 C6 2215 C6 2242 C6
2243 C6 2246 D7 2247 D7 2250 D7 2251 D7 2252 D7 2253 D7 2254 D7 2255 D7 2256 D7 2257 D7 2259 D7 2260 D7
2262 A7 2263 A7 2264 A7 2265 A7 2267 D7 2268 D6 2273 D6 2277 D7 2283 A7 2285 A7 2287 A7 2288 A7 2289 A7
2290 A7 2291 A7 2292 A7 2293 A7 2294 A7 2295 A7 2296 A7 2297 A7 2298 A7 2299 A7 2300 A7 2301 A7 2302 A7
2303 A7 2304 A7 2305 A7 2306 A7 2307 A7 2308 A7 2309 A7 2310 A7 2311 A7 2312 A7 2313 A7 2314 A7 2315 A6
2317 B8 2318 B8 2319 B8 2320 B8 2321 B8 2322 B8 2323 B8 2324 B8 2325 B8 2326 B8 2327 A8 2328 A8 2329 A8
2330 A8 2331 A8 2332 A8 2333 A8 2334 A8 2335 A8 2336 A8 2337 A8 2338 A8 2339 A8 2340 A8 2408 B8 2409 B8
2410 B8 2411 B8 2412 C8 2413 C8 2414 C8 2415 C8 2416 C8 2417 C8 2418 C8 2419 C8 2420 B8 2421 C8 2422 C8
2423 B8 2432 C8 2433 C8 2434 C8 2435 C8 2436 C8 2437 C8 2438 C8 2439 B8 2440 B8 2441 C8 2442 C8 2443 C8
2444 C7 2445 C8 2446 C8 2447 C8 2600 F6 2601 F6 2609 F6 2613 E6 2614 E6 2615 F6 2616 F6 2617 F6 2801 F8
2802 F8 2805 F9 2806 E9 2807 F9 2808 F9 2809 F7 2810 F7 2811 E9 2812 E9 2813 E8 2814 E9 2815 E9 2828 E8
2901 B9 2902 B9 2903 B9 2906 B9 2907 B9 2909 B10 2910 B10 2911 B10 2912 B10 2940 B10 2A01 A9 2A02 A9
2A04 B9 2A08 A9 2A09 A9 2A10 B9 2A11 A9 2A12 A9 2A13 A10 2A14 A10 2A15 A8 2A16 B8 2A17 A10 2A18 A9
2A19 B9 2A20 B8 2A22 B9 2A23 A10 2A24 B9 2A26 A10 2A29 B9 2A30 A9 2A32 B9 2A33 A9 2A34 A9 2A37 A10
2A38 A10 2B10 B4 2B11 B4 2B12 B3 2B13 B4 2B15 A3 2B16 B3 2B18 C5 2B19 B5 2B20 B5 2B21 D5 2B22 A3
2C55 A3 2C56 A3 2C57 A3 2C58 A5 2C59 A4 2C60 A3 2C61 A3 2F10 D3 2F11 D3 2F12 F3 2F13 F3 2F18 C1
2F20 D3 2F21 D3 2F22 E3 2G02 C3 2G17 B1 2G18 C1 2G22 D3 2G23 D1 2G24 B1 2G33 B2 2G34 C1 2H06 C3
2H07 D1 2J01 B1 2J04 D3 2J05 D3 2J06 D3 2K11 D3 2K13 D3 2K14 F2 2K16 F3 2K17 F3 2L20 A9 2L22 A8
2L23 A8 2L24 A9 2L25 A9 2L30 A9 2L31 A9 2L32 A9 2L33 A9 3113 E6 3114 E6 3116 E6 3117 E6 3118 E6
3119 E6 3122 E6 3125 D6 3126 D6 3130 D5 3133 D6 3135 D6 3200 B7 3201 B7 3202 B7 3203 B7 3204 B7
3205 B7 3207 B7 3208 B7 3209 B7 3210 B7 3211 B7 3212 B7 3213 A6 3214 A6 3215 B7 3216 A6 3217 A6
3218 A6 3219 A6 3220 A6 3221 A6 3222 A7 3223 A7 3224 A7 3225 A7 3226 A7 3227 A7 3229 D7 3231 D7
3232 D7 3233 A8 3234 A8 3235 A8 3238 A8 3239 D6 3240 D7 3246 A7 3247 A7 3266 C6 3268 C6 3271 C6
3272 D6 3303 B7 3304 B6 3305 B7 3306 B7 3307 B7 3308 B7 3309 B7 3310 B7 3311 B7 3312 B7 3313 B7
3314 B7 3315 B7 3316 B7 3317 B7 3318 B7 3319 A6 3320 A6 3321 A6 3322 A6 3323 A6 3324 A6 3325 A6
3326 A6 3327 A8 3328 B8 3329 A6 3330 A8 3331 B7 3332 B7 3333 B7 3334 B7 3335 B7 3336 B8 3337 A8
3338 A8 3339 A8 3340 A8 3341 A8 3342 A8 3343 A8 3344 B6 3345 B6 3346 B6 3347 B6 3348 B6 3349 B6
3350 B6 3351 B6 3352 B6 3353 B6 3354 B7 3355 B7 3356 B7 3357 B7 3358 B7 3359 B7 3360 B7 3361 B6
3362 B6 3363 B6 3364 B6 3365 B6 3366 B6 3367 B6 3368 B6 3369 B6 3370 B6 3371 B7 3372 B7 3373 B7
3374 B7 3375 B7 3376 B7 3377 B7 3378 B7 3379 B7 3380 B7 3381 B7 3382 B7 3383 A7 3384 B7 3385 B7
3386 B6 3387 B6 3388 B6 3389 A8 3390 A8 3391 A8 3392 A8 3393 A8 3394 A7 3395 A7 3396 A7 3397 A7
3398 A7 3399 A7 3400 C8 3401 C8 3402 C8 3403 C8 3404 C8 3405 C8 3406 C8 3407 C8 3408 C8 3409 C8
3410 C8 3411 C8 3412 C8 3413 C8 3414 C8 3415 C8 3416 C8 3417 C8 3418 C8 3419 C8 3420 C8 3421 C8
3422 C8 3423 C8 3424 C8 3425 C8 3426 C8 3427 C8 3428 C8 3429 C8 3430 C8 3431 C8 3432 C8 3433 C8
3434 C8 3435 C8 3436 C8 3437 C8 3438 C8 3439 C8 3440 C8 3441 C8 3442 C8 3443 C8 3444 C8 3445 C8
3446 C8 3447 C8 3448 C8 3449 C8 3450 C8 3451 C8 3452 C8 3453 C8 3454 C8 3455 C8 3456 C8 3457 C8
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3506 C8 3507 C8 3508 C8 3509 C8 3510 C8 3511 C8 3512 C8 3513 C8 3514 C8 3515 C8 3516 C8 3517 C8
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3530 C8 3531 C8 3532 C8 3533 C8 3534 C8 3535 C8 3536 C8 3537 C8 3538 C8 3539 C8 3540 C8 3541 C8
3542 C8 3543 C8 3544 C8 3545 C8 3546 C8 3547 C8 3548 C8 3549 C8 3550 C8 3551 C8 3552 C8 3553 C8
3554 C8 3555 C8 3556 C8 3557 C8 3558 C8 3559 C8 3560 C8 3561 C8 3562 C8 3563 C8 3564 C8 3565 C8
3566 C8 3567 C8 3568 C8 3569 C8 3570 C8 3571 C8 3572 C8 3573 C8 3574 C8 3575 C8 3576 C8 3577 C8
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3602 F6 3603 F6 3604 F6 3605 F6 3606 E9 3607 F6 3608 F6 3609 F6 3610 F6 3611 F6 3612 F6 3613 F6
3614 F6 3615 E6 3616 F6 3617 E6 3618 F6 3619 E8 3620 F6 3621 F6 3622 F6 3623 E6 3624 F6 3625 E6
3626 F6 3627 F6 3628 E7 3629 E7 3630 E7 3631 E7 3632 E7 3633 E7 3634 E7 3635 E7 3636 E7 3637 E7
3638 E7 3639 E7 3640 E7 3641 E7 3642 E7 3643 E7 3644 E7 3645 E7 3646 E7 3647 E7 3648 E7 3649 E7
3650 E7 3651 E7 3652 E7 3653 E7 3654 E8 3655 E8 3656 E8 3657 E8 3658 E8 3659 E8 3660 E7 3661 E7
3662 E7 3663 E7 3664 E7 3665 E7 3666 E7 3667 E7 3668 E7 3669 E7 3670 E7 3671 E7 3672 E7 3673 E7
3674 E7 3675 E7 3676 E7 3677 E7 3678 E7 3679 E7 3680 E7 3681 E7 3682 E7 3683 E7 3684 E7 3685 E7
3686 E7 3687 E7 3688 E7 3689 E7 3690 E7 3691 E7 3692 E7 3693 E7 3694 E7 3695 E7 3696 E7 3697 E7
3698 E7 3699 E7 3700 E7 3701 E7 3702 E7 3703 E7 3704 E7 3705 E7 3706 E7 3707 E7 3708 E7 3709 E7
3710 E7 3711 E7 3712 E7 3713 E7 3714 E7 3715 E7 3716 E7 3717 E7 3718 E7 3719 E7 3720 E7 3721 E7
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3734 E7 3735 E7 3736 E7 3737 E7 3738 E7 3739 E7 3740 E7 3741 E7 3742 E7 3743 E7 3744 E7 3745 E7
3746 E7 3747 E7 3748 E7 3749 E7 3750 E7 3751 E7 3752 E7 3753 E7 3754 E7 3755 E7 3756 E7 3757 E7
3758 E7 3759 E7 3760 E7 3761 E7 3762 E7 3763 E7 3764 E7 3765 E7 3766 E7 3767 E7 3768 E7 3769 E7
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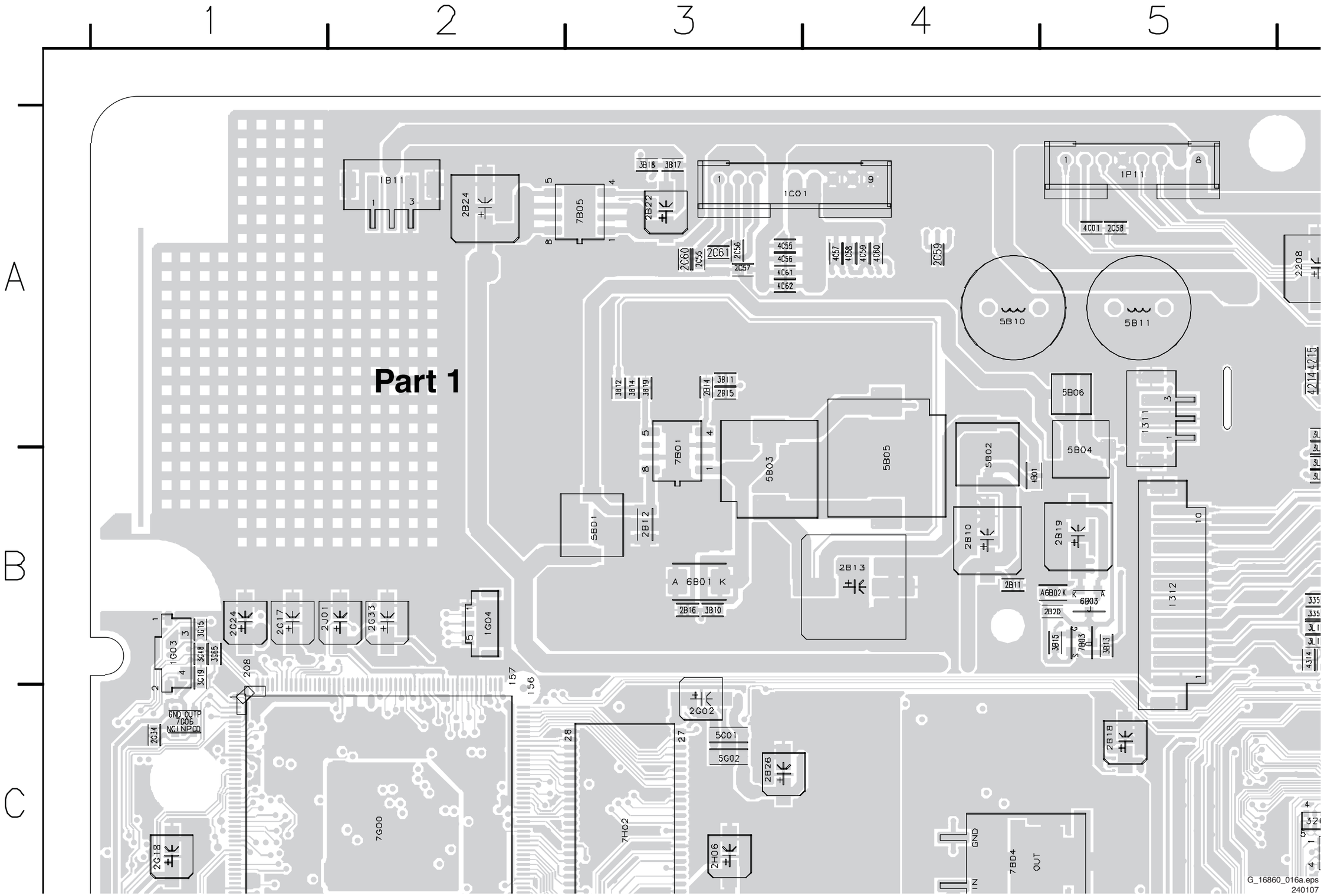
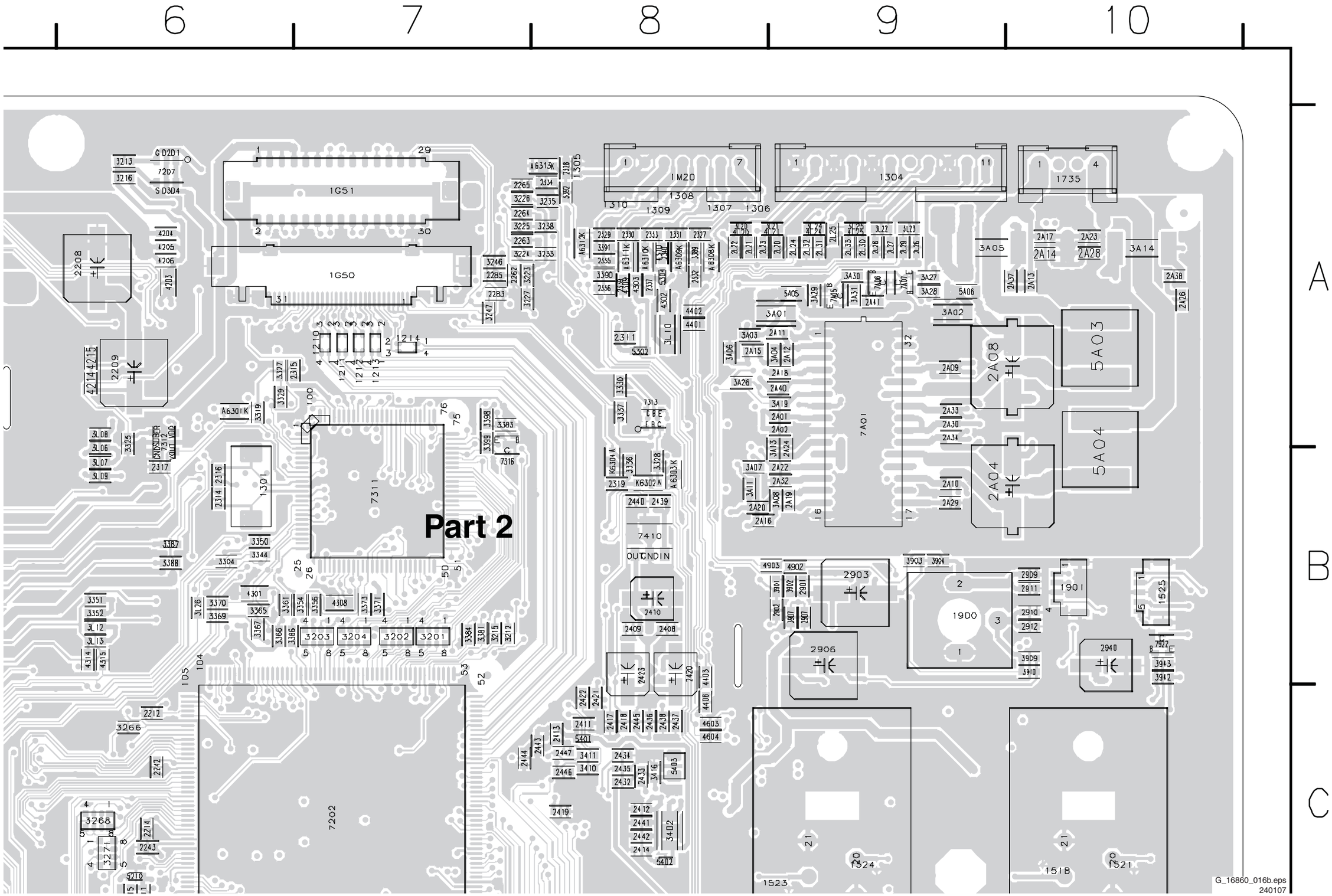
3782 E7 3783 E7 3784 E7 3785 E7 3786 E7 3787 E7 3788 E7 3789 E7 3790 E7 3791 E7 3792 E7 3793 E7
3794 E7 3795 E7 3796 E7 3797 E7 3798 E7 3799 E7 3800 E7 3801 E7 3802 E7 3803 E7 3804 E9 3805 E9
3806 E9 3807 E8 3809 F7 3810 F7 3811 E8 3812 E8 3813 F6 3814 E6 3815 E6 3819 E8 3820 F6 3821 F6
3822 F6 3823 E6 3824 F6 3825 E6 3826 F6 3827 F6 3828 E7 3829 E7 3830 E7 3831 E7 3832 E7 3833 E7
3834 E7 3835 E7 3836 E7 3837 E7 3838 E7 3839 E7 3840 E7 3841 E7 3842 E7 3843 E7 3844 E7 3845 E7
3846 E7 3847 E7 3848 E7 3849 E7 3850 F7 3851 E7 3852 E7 3853 E7 3854 E8 3855 E8 3856 E8 3857 E8
3858 E8 3859 E8 3860 E7 3862 F7 3863 F7 3880 F8 3881 F8 3896 E7 3897 E7 3901 B9 3902 B9 3903 B9
3904 B9 3907 B9 3909 B10 3910 B10 3942 B10 3943 B10 3A01 A9 3A02 A9 3A03 A8 3A04 A9 3A05 A9
3A06 A8 3A07 B8 3A08 B9 3A11 B8 3A13 B9 3A14 A10 3A19 A9 3A26 A8 3A27 A9 3A28 A9 3A29 A9
3A30 A9 3A31 A9 3B10 B3 3B11 A3 3B12 A3 3B13 B5 3B14 A3 3B15 B5 3B17 A3 3B18 A3 3B19 A3
3G15 B1 3G19 B1 3G48 B1 3G56 D1 3G57 D1 3G58 D1 3G59 D1 3G60 D2 3G61 D2 3G65 B1 3J01 D3
3J02 D3 3J03 D3 3K00 F2 3K01 F2 3K02 E3 3K03 F3 3K05 E3 3K09 F2 3K12 F2 3K15 E1 3K16 E2
3K18 F2 3K21 F2 3K25 E2 3K26 E2 3K27 F1 3K28 E2 3K29 E1 3K30 E2 3K31 E2 3K32 E2 3K33 E1
3K34 F1 3K49 E2 3K50 E2 3K51 E1 3K52 F1 3L06 B6 3L07 B6 3L08 A6 3L09 B6 3L10 A8 3L12 B6
3L13 B6 3L20 A8 3L21 A9 3L22 A9 3L23 A9 3L24 A9 3L25 A9 3L26 B6 3L27 B6 3L28 A9 3L29 A9
3L30 D5 3L31 A9 3L32 A9 3L33 A9 3L34 A9 3L35 A9 3L36 A9 3L37 A9 3L38 A9 3L39 A9 3L40 A9
3L41 A9 3L42 A9 3L43 A9 3L44 A9 3L45 A9 3L46 A9 3L47 A9 3L48 A9 3L49 A9 3L50 A9

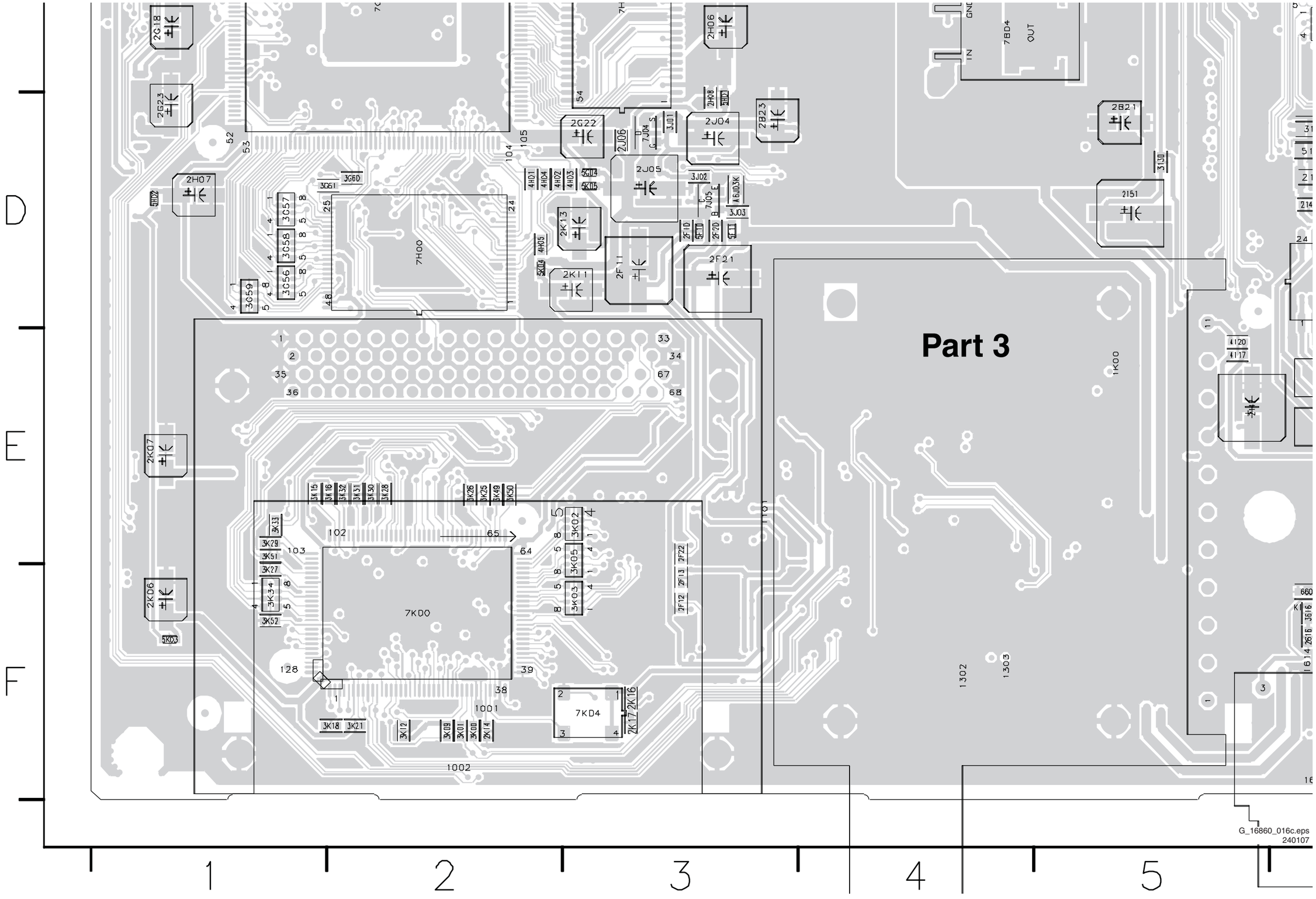
Layout Small Signal Board (Part 1 Top Side)



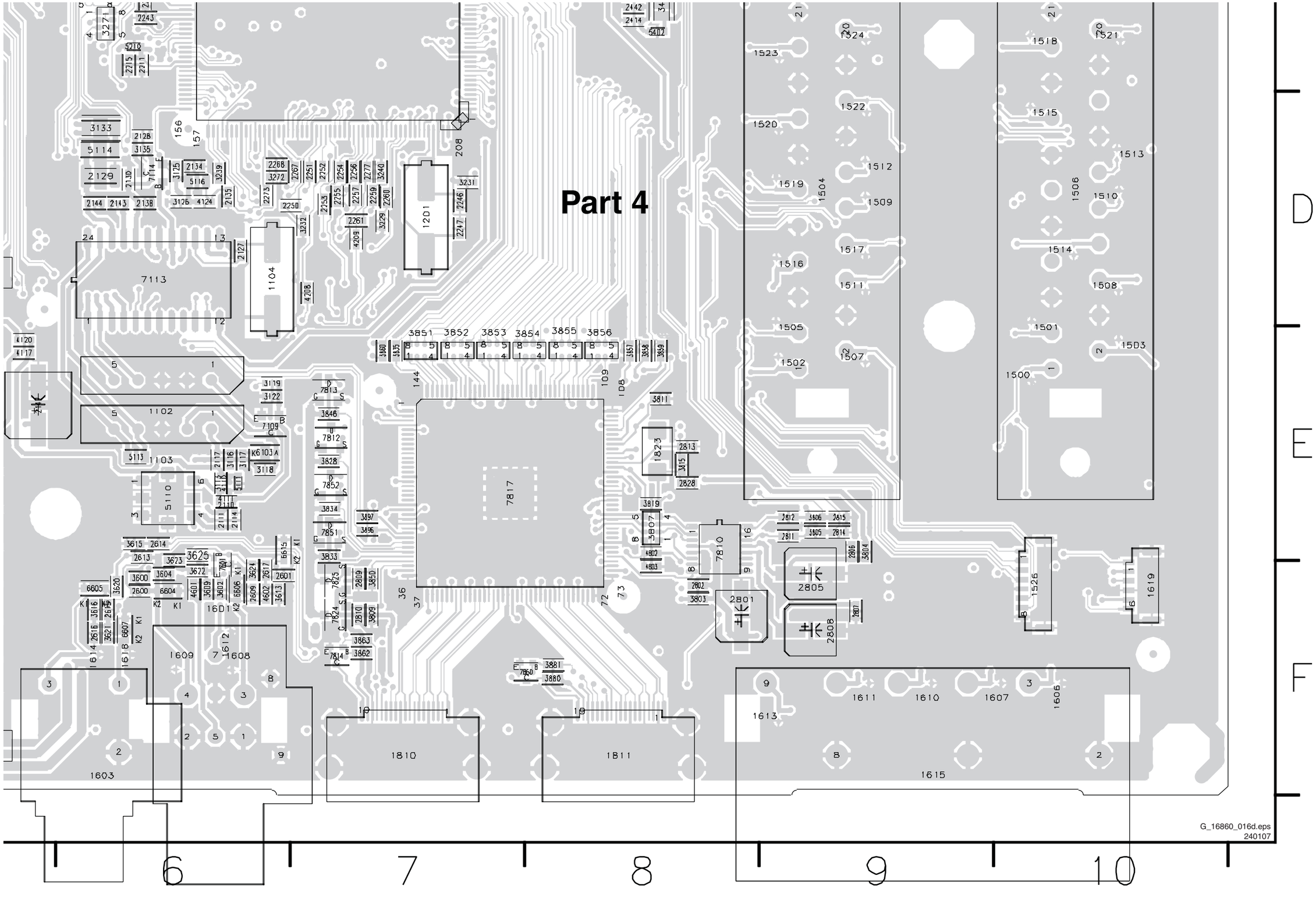
Layout Small Signal Board (Part 2 Top Side)



Layout Small Signal Board (Part 3 Top Side)

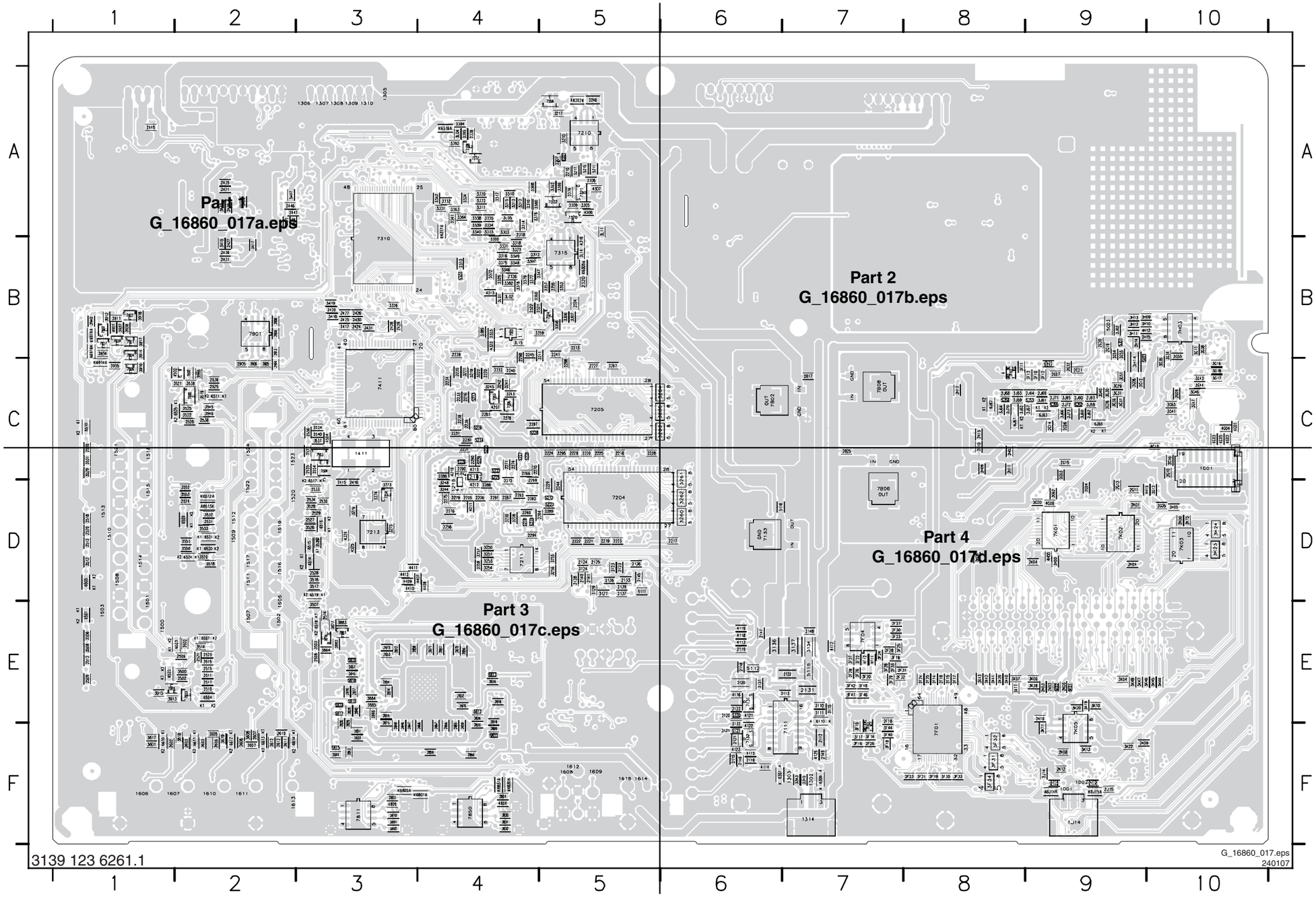


Layout Small Signal Board (Part 4 Top Side)

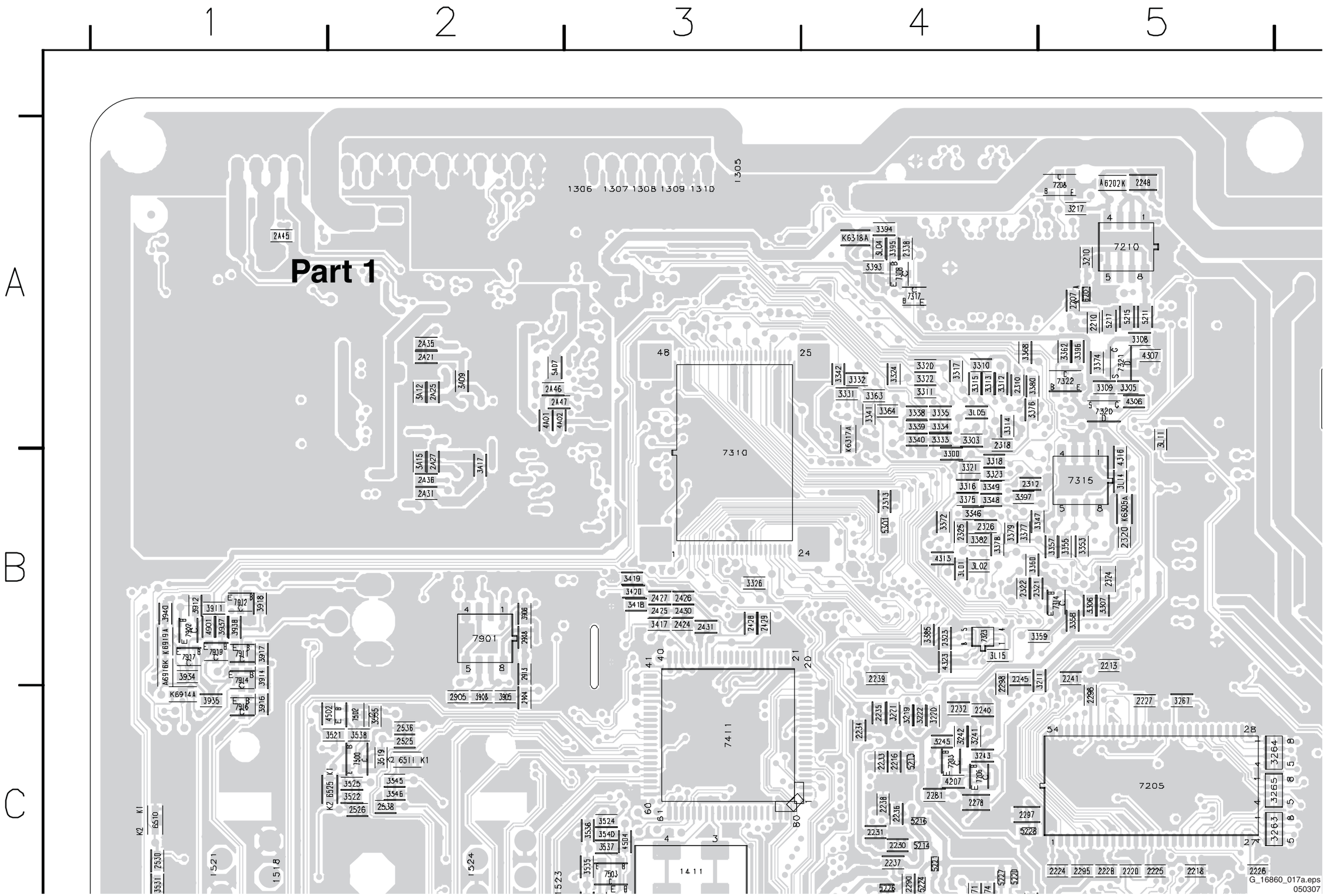


Layout Small Signal Board (Overview Bottom Side)

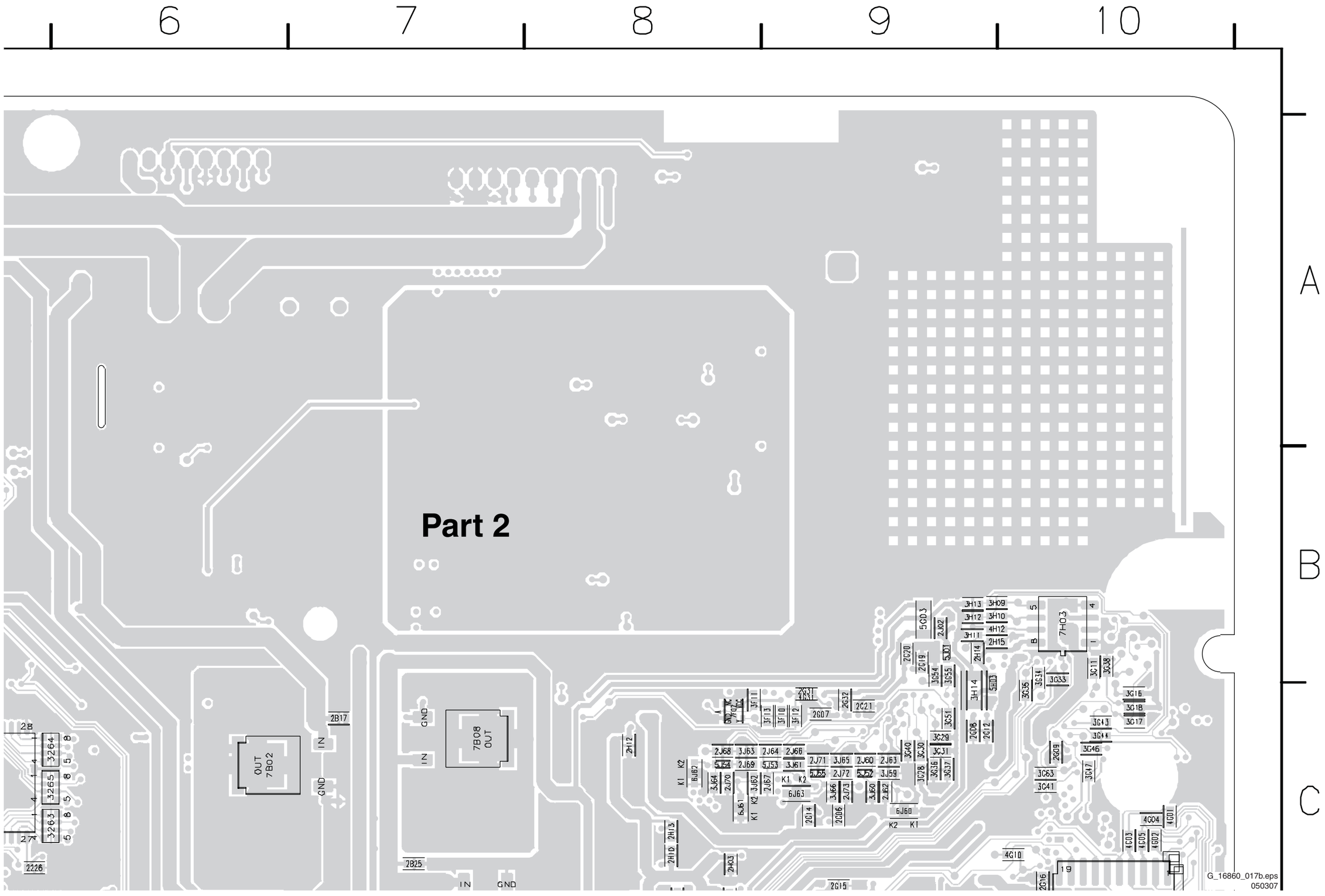
1001 F9 2121 F6 2148 E7 2226 C5 2245 B4 2286 C4 2320 B5 2431 B3 2528 D3 2804 F4 2848 F3 2868 F4 2A35 A2 2F27 E7 2G13 D9 2H15 B9 2K01 D9 3127 D5 3241 C4 3263 C5 3312 A4 3335 A4 3360 B4 3395 A4 3514 E2 3532 D2 3605 F2 3883 E3 3937 B1 3K46 E9 5K02 E9
1002 F9 2122 E6 2149 F7 2227 C5 2248 A5 2287 D4 2321 B4 2502 E2 2529 D3 2816 E3 2849 F3 2869 F4 2A36 B2 2F28 E7 2G14 C9 2J02 B9 2K02 E9 3128 D5 3242 C4 3264 C5 3313 A4 3338 A4 3362 A5 3396 A5 3515 E2 3533 D2 3607 F2 3884 E3 3938 B1 3K47 E9 6110 E7
1215 D4 2123 D5 2205 D4 2228 C5 2258 D4 2288 D4 2322 B4 2506 E2 2530 C1 2817 E3 2850 F4 2870 E4 2A45 A1 2F29 E7 2G15 C9 2J14 F9 2K03 E9 3129 D5 3243 C4 3265 C5 3314 A4 3339 A4 3363 A4 3397 B4 3516 D3 3535 C3 3608 F2 3885 E3 3940 B1 3K48 E9 6201 A5
1216 C4 2124 D5 2206 D4 2229 D5 2266 C4 2289 D5 2323 B4 2508 E3 2531 D2 2818 E4 2851 F3 2871 E4 2A46 A2 2F30 E7 2G16 C10 2J15 F9 2K04 D9 3131 E6 3244 D4 3267 C5 3315 A4 3340 A4 3364 A4 3417 B3 3517 D3 3536 C3 3611 F2 3886 E3 3A09 A2 3L01 B4 6202 A5
1302 F7 2125 D5 2207 A5 2230 C4 2269 D4 2290 C4 2324 B5 2509 E1 2533 D3 2819 E4 2852 E4 2872 E3 2A47 A2 2F31 E7 2G19 B9 2J60 C9 2K05 E9 3132 F6 3245 C4 3273 D3 3316 B4 3341 A4 3368 A4 3418 B3 3518 D2 3537 C3 3612 F2 3905 C2 3A12 A2 3L02 B4 6305 B5
1303 F7 2126 D5 2210 A5 2231 C4 2270 C4 2291 D4 2325 B4 2512 E1 2534 D3 2829 F3 2853 E3 2B17 C7 2F32 E7 2G20 B9 2J62 C9 2K08 F9 3134 E7 3248 D4 3274 D3 3317 A4 3342 A4 3372 B4 3419 B3 3519 C2 3538 C2 3617 F1 3906 B2 3A15 B2 3L04 A4 6306 F7
1314 F7 2131 E7 2213 B5 2232 C4 2271 C4 2292 C4 2326 B4 2514 E3 2535 C3 2830 F3 2854 E3 2874 E3 2B25 C7 2F33 E7 2G21 C9 2J63 C9 2K09 F9 3136 E6 3250 D4 3275 D3 3318 B4 3343 F7 3374 A5 3420 B3 3520 D2 3540 C3 3618 F2 3908 C2 3A17 B2 3L05 A4 6307 F6
1411 C3 2132 E7 2216 C4 2233 C4 2272 D4 2293 D4 2338 A4 2515 E2 2536 C2 2833 F3 2855 E3 2875 F3 2F14 E8 2G03 C9 2G31 C9 2J64 C9 2K10 E9 3137 E7 3251 D4 3276 D3 3320 A4 3345 F7 3375 B4 3500 E2 3521 C2 3545 C2 3619 F2 3911 B1 3F10 C9 3L11 A5 6317 A4
1G01 C10 2133 D5 2217 D6 2234 C4 2274 C4 2294 D4 2415 D3 2517 E2 2538 C2 2835 F4 2856 E4 2876 E4 2F15 E8 2G04 D9 2G32 C9 2J66 C9 2K12 F9 3210 A5 3253 D4 3300 B4 3321 B4 3346 B4 3376 A4 3502 E2 3522 C2 3546 C2 3801 F3 3912 B1 3F11 C8 3L14 B5 6318 A4
1J14 F9 2136 D5 2218 C5 2235 C4 2275 D4 2295 C5 2416 D3 2518 D1 2602 F1 2836 E4 2857 E4 2904 C2 2F16 E8 2G05 D10 2H03 C8 2J67 C9 2K15 D10 3211 B5 3254 D4 3303 A4 3322 A4 3347 B4 3377 B4 3503 E3 3523 D3 3550 D2 3802 F3 3913 E1 3F12 C9 3L15 B4 6501 E1
2112 F7 2137 D5 2219 D5 2236 C4 2276 D4 2296 C5 2424 B3 2520 D1 2603 F2 2838 E4 2858 E3 2905 C2 2F17 E8 2G06 C9 2H04 D9 2J68 C8 3110 E7 3217 A5 3255 D5 3305 A5 3323 B4 3348 B4 3378 B4 3506 E1 3524 C3 3551 D2 3810 F3 3914 B1 3F13 C9 4112 E7 6504 E2
2113 E7 2139 D5 2220 C5 2237 C4 2278 C4 2297 C4 2425 B3 2521 E2 2606 F2 2839 E3 2859 F4 2908 B2 2F18 E7 2G07 C9 2H09 C8 2J69 C8 3111 E7 3219 C4 3256 D5 3306 B5 3324 A4 3349 B4 3379 B4 3507 E3 3525 C2 3552 D2 3830 F4 3915 E1 3F14 F7 4113 E6 6505 D1
2115 F6 2140 D5 2221 D5 2238 C4 2279 D4 2298 B4 2426 B3 2523 E2 2607 F2 2840 E3 2860 F4 2913 B2 2F19 F8 2G08 C9 2H10 C8 2J70 C8 3115 E7 3220 C4 3257 D4 3307 B5 3326 B3 3353 B5 3380 A4 3508 E1 3526 D3 3553 D2 3831 F4 3916 C1 3F15 F7 4114 F6 6507 E2
2116 F6 2141 D5 2222 D5 2239 B4 2280 D4 2310 A4 2427 B3 2524 D2 2608 F2 2843 F3 2861 E3 2A21 A2 2F23 F8 2G09 C10 2H11 C8 2J71 C9 3120 E6 3221 C4 3258 D4 3308 A5 3331 A4 3355 B5 3382 B4 3510 E2 3528 D3 3554 C3 3832 F4 3917 B1 3F16 F7 4115 F6 6509 D2
2118 E6 2145 D5 2223 D5 2240 C4 2281 C4 2312 B4 2428 B3 2525 C2 2610 F2 2844 F3 2865 F4 2A25 A2 2F24 E8 2G10 C10 2H12 C8 2J72 C9 3121 F6 3222 C4 3260 D6 3309 A5 3332 A4 3357 B5 3385 B4 3511 E2 3529 C1 3555 C2 3864 E3 3918 B1 3F17 F7 4116 E6 6510 C1
2119 E6 2146 F6 2224 C5 2241 B5 2282 D4 2313 B4 2429 B3 2526 C2 2612 F2 2845 E3 2866 F4 2A27 B2 2F25 E8 2G11 D9 2H13 C8 2J73 C9 3123 D5 3228 D4 3261 C6 3310 A4 3333 A4 3358 B5 3393 A4 3512 D1 3530 D3 3601 F1 3877 E3 3934 B1 3F18 F7 4118 E6 6511 C2
2120 E6 2147 E6 2225 C5 2244 D5 2284 D5 2318 A4 2430 B3 2527 D3 2803 F3 2847 F3 2867 F4 2A31 B2 2F26 F7 2G12 C9 2H14 B9 2K00 D10 3124 D5 3230 D4 3262 D6 3311 A4 3334 A4 3359 B5 3394 A4 3513 D1 3531 C1 3603 F2 3882 E3 3935 C1 3F19 E7 4119 E6 6512 D2
3F20 E7 4121 E6 6513 D2
3F21 F8 4122 F6 6514 D3
3F22 E7 4123 F6 6515 D3
3F23 E7 4125 F7 6516 D3
3F24 E7 4207 C4 6517 D3
3F25 E7 4210 C4 6518 E3
3F26 E7 4211 D4 6519 D3
3F27 E7 4212 D4 6520 D2
3F28 E7 4213 C4 6521 D2
3F29 E7 4306 A5 6522 E1
3F30 F8 4307 A5 6523 E2
3F31 F8 4313 B4 6524 D2
3F32 F8 4316 B5 6525 C2
3F33 F8 4323 B4 6610 F1
3F34 F8 4324 D3 6611 F2
3F40 F7 4325 D3 6612 F2
3F41 E7 4407 D4 6613 F2
3F42 E7 4408 D4 6614 F2
3F44 F7 4409 D3 6801 F4
3F46 E7 4410 D3 6802 F3
3F48 E7 4411 D3 6830 F4
3G11 B10 4412 D3 6831 F4
3G12 D10 4502 C2 6914 C1
3G16 C10 4504 C3 6916 B1
3G17 C10 4804 F4 6919 B1
3G18 C10 4805 F3 6J14 F9
3G20 D9 4901 B1 6J15 F9
3G28 C9 4A01 A2 6J60 C9
3G29 C9 4A02 A2 6J61 C8
3G30 C9 4F11 E7 6J62 C8
3G31 C9 4F12 E7 6J63 C9
3G33 B10 4G01 C10 7111 F7
3G34 B10 4G02 C10 7131 E6
3G35 C10 4G03 C10 7132 F6
3G36 C9 4G04 C10 7133 D6
3G37 C9 4G05 C10 7203 C4
3G38 B10 4G09 D9 7204 D5
3G40 C9 4G10 C10 7205 C5
3G41 C10 4G31 C9 7206 C4
3G43 C10 4H00 D9 7208 A5
3G44 C10 4H12 B9 7210 A5
3G46 C10 4H15 D10 7211 D4
3G47 C10 4J14 F9 7213 D3
3G51 C9 4J15 F9 7214 D3
3G54 B9 5112 E6 7308 A4
3G55 B9 5115 E7 7310 B3
3G62 D9 5117 D5 7314 B5
3G63 C10 5118 D6 7315 B5
3H00 D9 5120 E6 7317 A4
3H05 D10 5121 F6 7320 A5
3H09 B9 5211 A5 7321 A5
3H10 B9 5212 D5 7322 A5
3H11 B9 5213 C4 7323 B4
3H12 B9 5214 C4 7411 C3
3H13 B9 5215 A5 7500 C2
3H14 C9 5216 C4 7502 C2
3J14 F9 5217 A5 7503 C3
3J15 F9 5218 D4 7504 C3
3J59 C9 5219 D4 7811 F3
3J60 C9 5220 C4 7816 E3
3J61 C9 5221 C4 7850 F4
3J62 C8 5222 C4 7861 E3
3J63 C8 5223 D5 7901 B2
3J64 C8 5224 C4 7902 B1
3J65 C9 5225 C4 7911 B1
3J66 C9 5226 C4 7912 B1
3K04 E9 5227 C4 7913 E2
3K06 E9 5228 C4 7914 B1
3K07 E8 5301 B4 7915 E1
3K08 D8 5810 E3 7916 C1
3K10 E9 5811 F4 7917 B1
3K11 F9 5812 E4 7919 B1
3K13 F9 5813 E4 7B02 C6
3K17 E8 5814 E3 7B06 D7
3K19 E9 5815 F3 7B08 C7
3K20 E9 5816 E3 7F01 F8
3K22 F9 5817 E3 7F02 C8
3K23 D10 5818 E3 7F03 F7
3K24 D10 5A07 A2 7F04 E7
3K38 E9 5G03 B9 7H03 B10
3K39 E8 5H03 C9 7K01 D9
3K40 E8 5J01 B9 7K02 D9
3K41 E8 5J52 C9 7K03 D10
3K42 E8 5J53 C9 7K05 F9
3K43 E8 5J54 C8
3K44 E10 5J55 C9
3K45 E10 5K01 E9



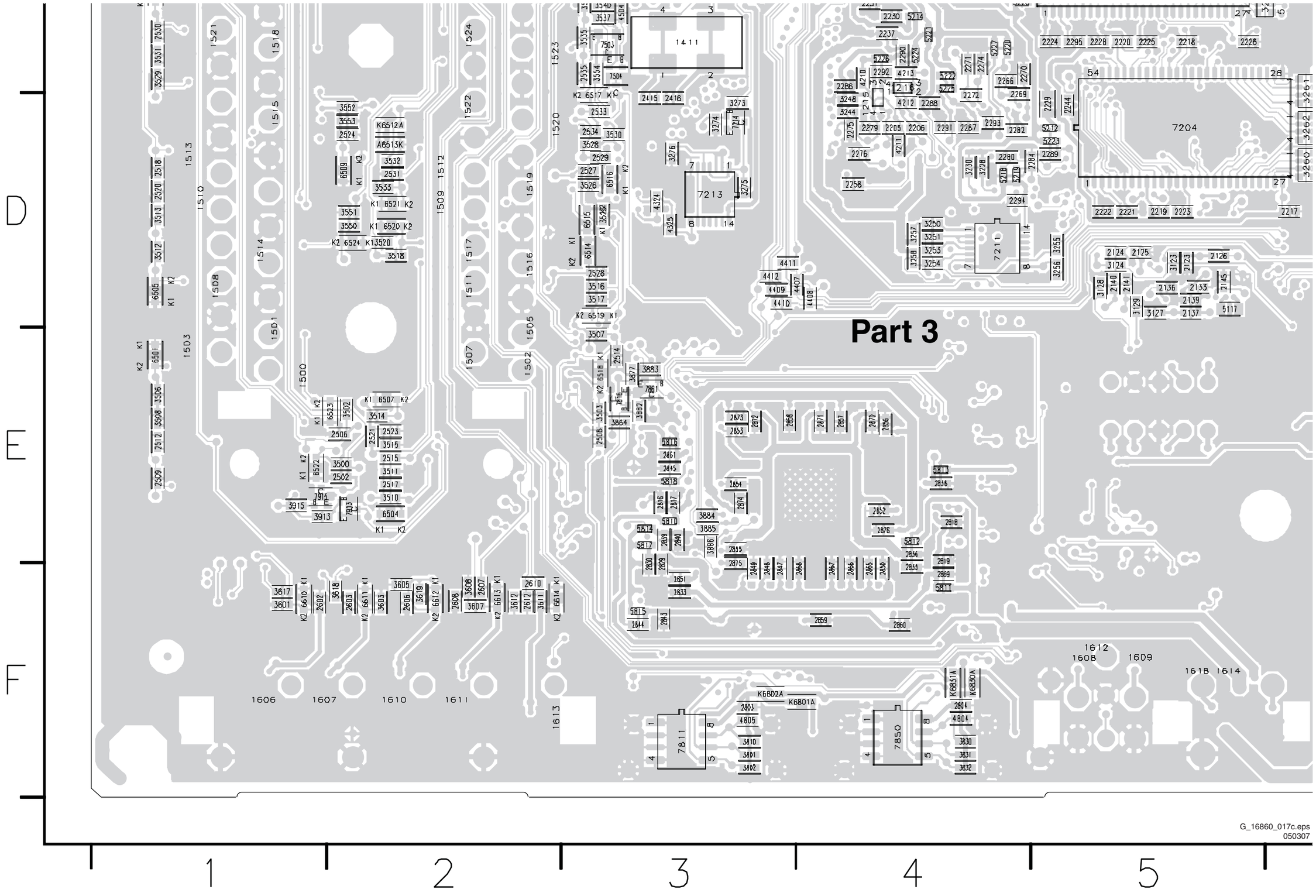
Layout Small Signal Board (Part 1 Bottom Side)



Layout Small Signal Board (Part 2 Bottom Side)



Layout Small Signal Board (Part 3 Bottom Side)



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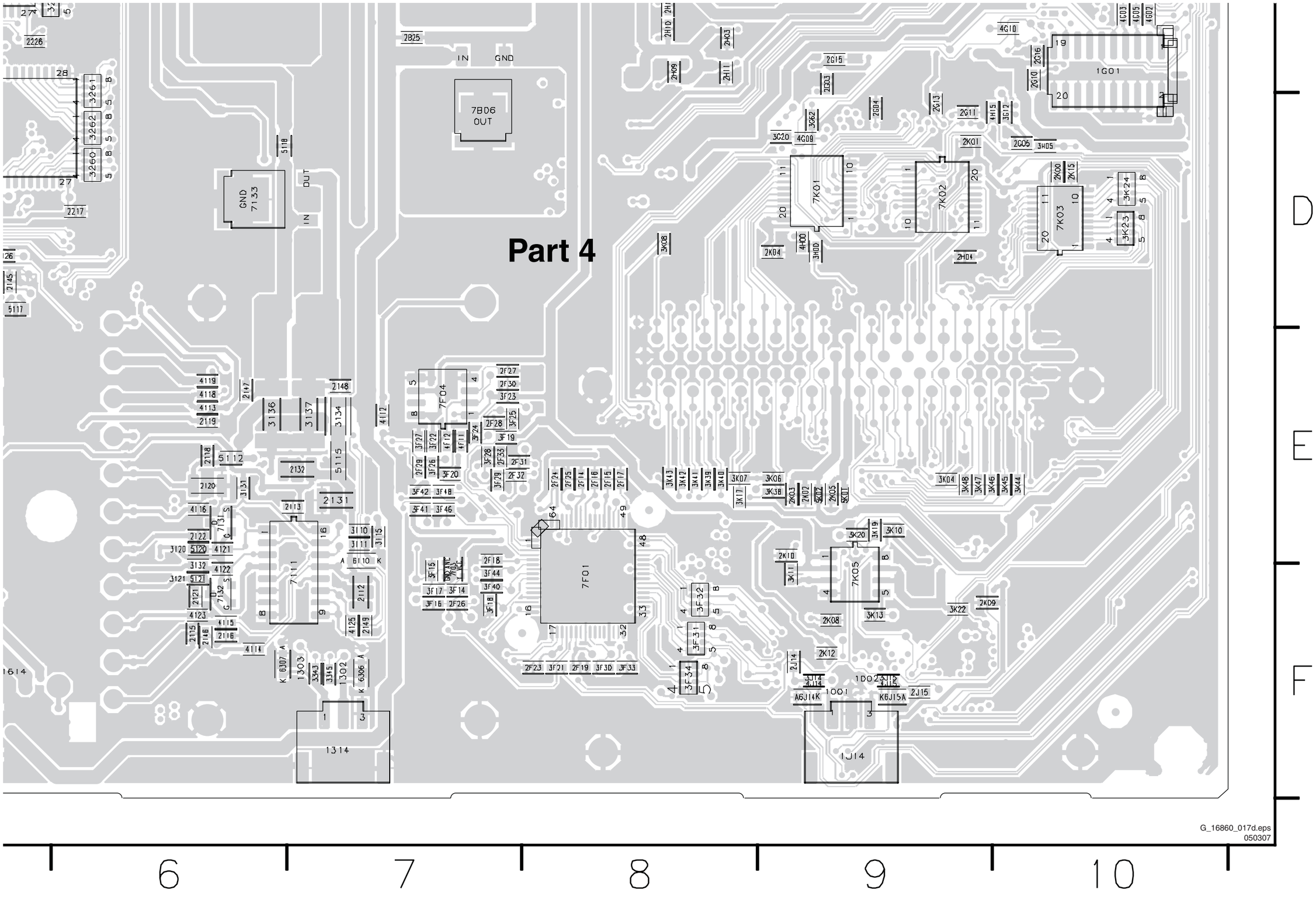
050307

Layout Small Signal Board (Part 4 Bottom Side)



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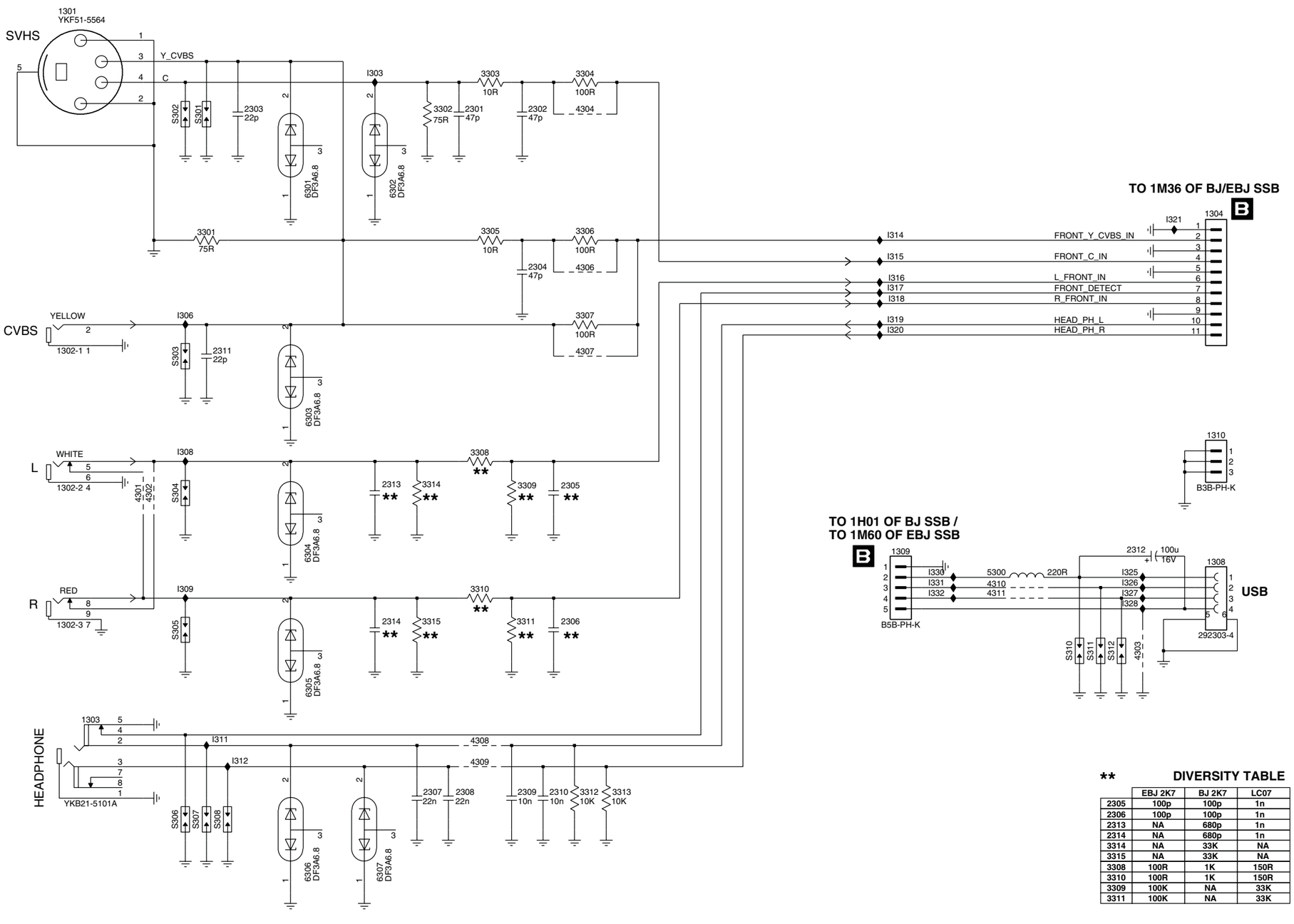
050307

Side A/V Panel

SIDE FACING SIDE AV



** DIVERSITY TABLE

	EBJ 2K7	BJ 2K7	LC07
2305	100p	100p	1n
2306	100p	100p	1n
2313	NA	680p	1n
2314	NA	680p	1n
3314	NA	33K	NA
3315	NA	33K	NA
3308	100R	1K	150R
3310	100R	1K	150R
3309	100K	NA	33K
3311	100K	NA	33K

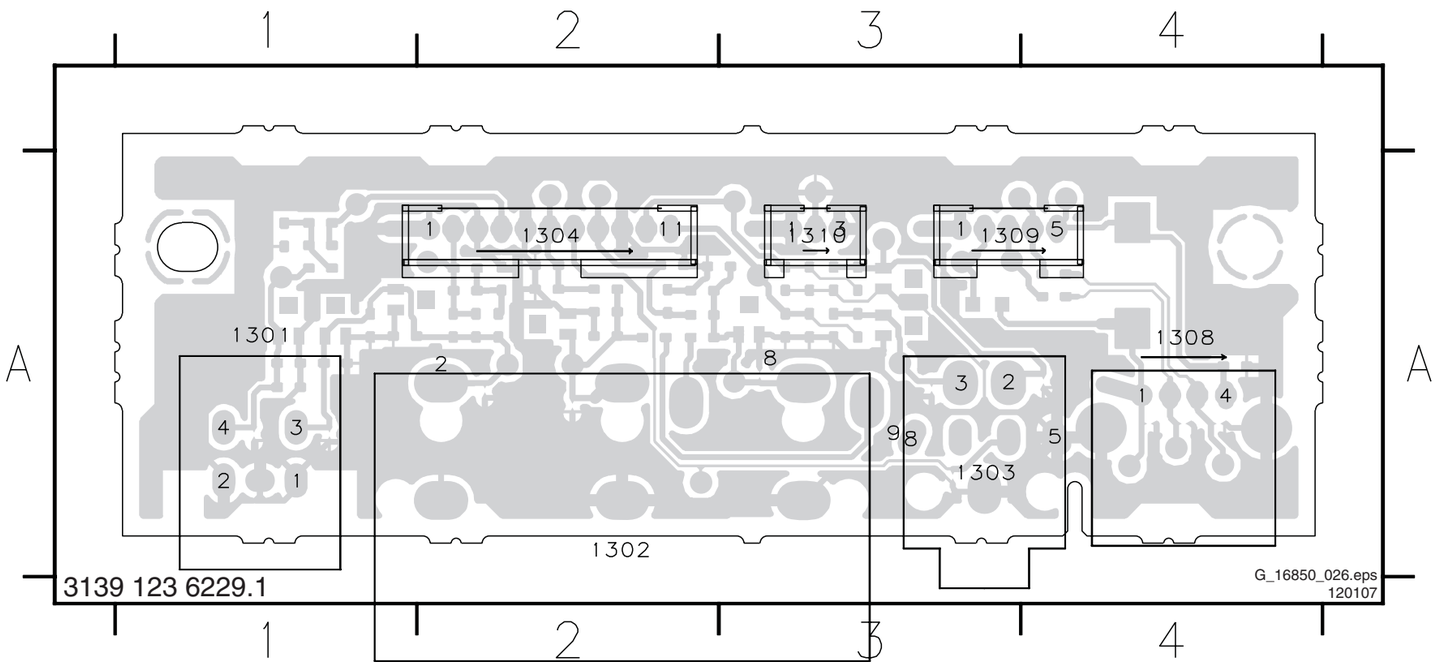
G_16850_023.eps
110107

3139 123 6229.1

1301 A1
1302-1 C1
1302-2 D1
1302-3 E1
1303 E1
1304 B9
1308 D9
1309 D7
1310 D9
2301 A4
2302 A4
2303 A2
2304 B4
2305 D4
2306 E4
2307 F4
2308 F4
2309 F4
2310 F4
2311 C2
2312 D8
2313 D3
2314 E3
3301 B2
3302 A4
3303 A4
3304 A5
3305 B4
3306 B5
3307 C5
3308 D4
3309 D4
3310 E4
3311 E4
3312 F5
3313 F5
3314 D4
3315 E4
4301 D2
4302 D2
4303 E8
4304 A5
4306 B5
4307 C5
4308 F4
4309 F4
4310 E7
4311 E7
5300 D7
6301 B3
6302 B3
6303 C3
6304 D3
6305 E3
6306 F3
6307 F3
I303 A3
I306 C2
I308 D2
I309 E2
I311 F2
I312 F2
I314 B7
I315 B7
I316 B7
I317 B7
I318 C7
I319 C7
I320 C7
I321 B9
I325 D8
I326 D8
I327 E8
I328 E8
I330 D7
I331 D7
I332 E7
S301 A2
S302 A2
S303 C2
S304 D2
S305 E2
S306 F2
S307 F2
S308 F2
S310 E8
S311 E8
S312 E8

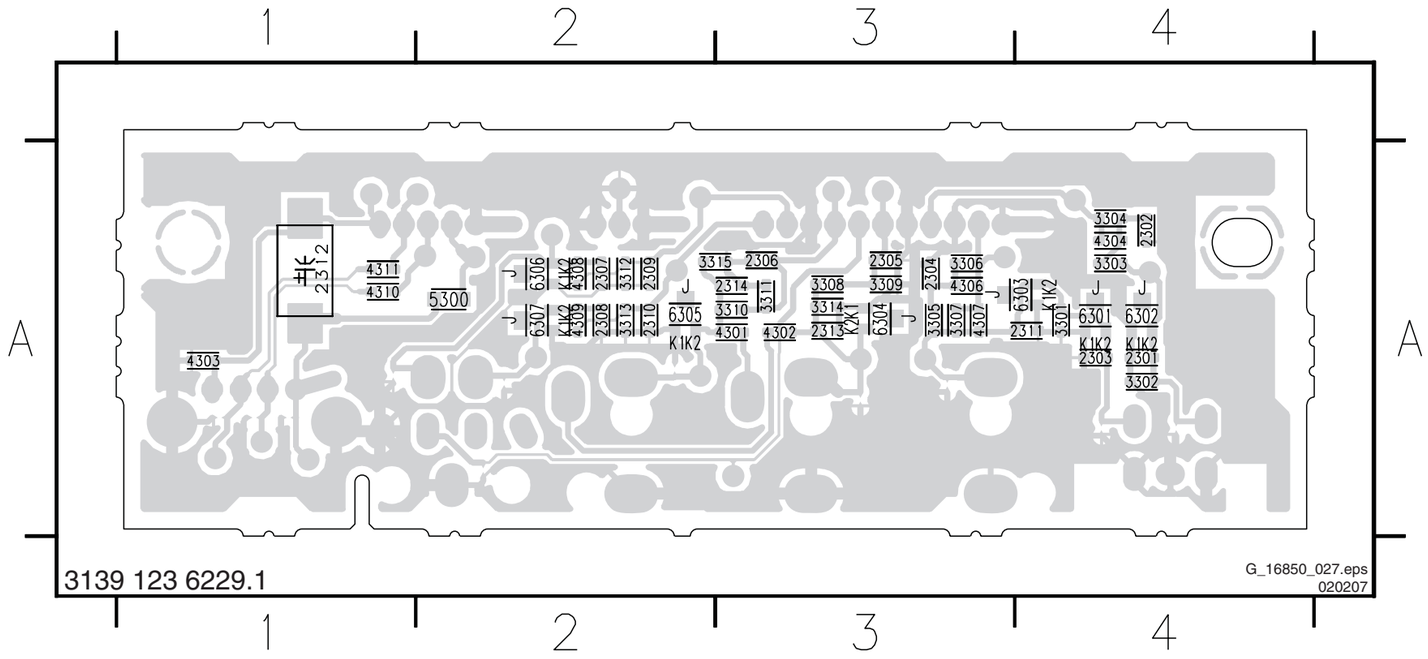
Layout Side A/V Panel (Top Side)

1301 A1 1302 A2 1303 A3 1304 A2 1308 A4 1309 A3 1310 A3

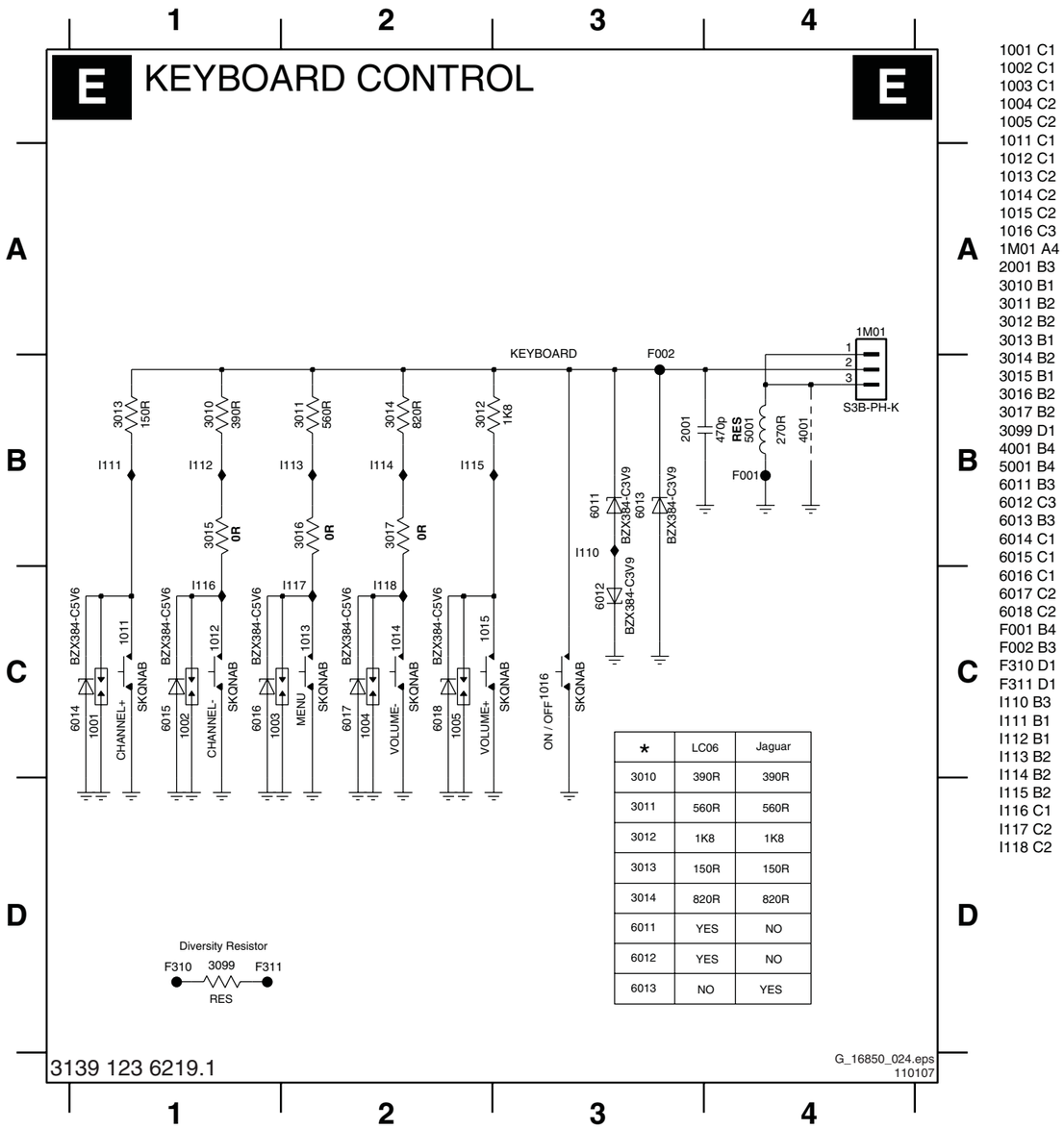


Layout Side A/V Panel (Bottom Side)

2301 A4 2307 A2 2313 A3 3305 A3 3311 A3 4302 A3 4309 A2 6303 A4
2302 A4 2308 A2 2314 A3 3306 A3 3312 A2 4303 A1 4310 A1 6304 A3
2303 A4 2309 A2 3301 A4 3307 A3 3313 A2 4304 A4 4311 A1 6305 A2
2304 A3 2310 A2 3302 A4 3308 A3 3314 A3 4306 A3 5300 A2 6306 A2
2305 A3 2311 A4 3303 A4 3309 A3 3315 A3 4307 A3 6301 A4 6307 A2
2306 A3 2312 A1 3304 A4 3310 A3 4301 A3 4308 A2 6302 A4



Keyboard Control Panel



*	LC06	Jaguar
3010	390R	390R
3011	560R	560R
3012	1K8	1K8
3013	150R	150R
3014	820R	820R
6011	YES	NO
6012	YES	NO
6013	NO	YES

1001 C1
1002 C1
1003 C1
1004 C2
1005 C2
1011 C1
1012 C1
1013 C2
1014 C2
1015 C2
1016 C3
1M01 A4
2001 B3
3010 B1
3011 B2
3012 B2
3013 B1
3014 B2
3015 B1
3016 B2
3017 B2
3099 D1
4001 B4
5001 B4
6011 B3
6012 C3
6013 B3
6014 C1
6015 C1
6016 C1
6017 C2
6018 C2
F001 B4
F002 B3
F310 D1
F311 D1
I110 B3
I111 B1
I112 B1
I113 B2
I114 B2
I115 B2
I116 C1
I117 C2
I118 C2

Personal Notes:

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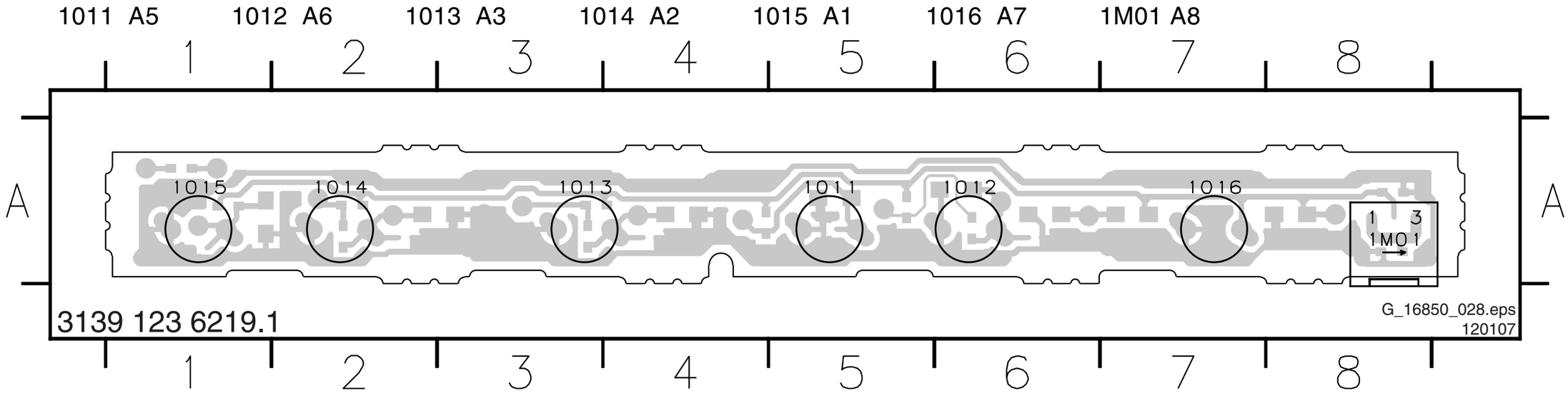
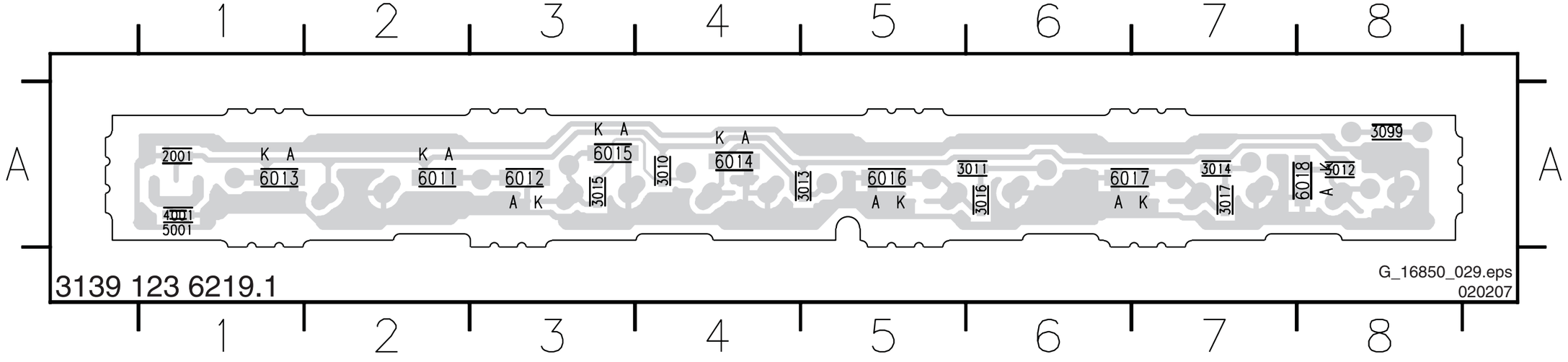
131004

Layout Keyboard Control Panel (Top Side)



Layout Keyboard Control Panel (Bottom Side)

2001 A1 3011 A6 3013 A5 3015 A3 3017 A7 4001 A1 6011 A2 6013 A1 6015 A3 6017 A6
3010 A4 3012 A8 3014 A7 3016 A6 3099 A8 5001 A1 6012 A3 6014 A4 6016 A5 6018 A8



1080P Panel: On Chip uController

F1 OCM ON CHIP MICROCONTROLLER

F1

1101 D8
3110 C7
3111 C7
3112 D6
3113 D6
3114 D5
3115 D5
3116 E5
3117 E5
3118 E5
3119 D5
6101 D7
6102 D7
7101-4 A3
7101-5 C3
F110 D7
F111 D7
F112 D7
I110 D5
I111 D5
I112 D5
I113 D5
I114 E5
I115 E5
I116 E5
I117 D5

F2

7101-4
GM1601
OCM-ADR

OCMADDR(0)	AA1	OCMADDR0	OCMADDR10|GPIO_G11_B2	V2	OCMADDR(10)
OCMADDR(1)	AA2	OCMADDR1	OCMADDR11|GPIO_G11_B3	V3	OCMADDR(11)
OCMADDR(2)	AA3	OCMADDR2	OCMADDR12|GPIO_G11_B4	V4	OCMADDR(12)
OCMADDR(3)	Y1	OCMADDR3	OCMADDR13|GPIO_G11_B5	U1	OCMADDR(13)
OCMADDR(4)	Y2	OCMADDR4	OCMADDR14|GPIO_G11_B6	U2	OCMADDR(14)
OCMADDR(5)	Y3	OCMADDR5	OCMADDR15|GPIO_G11_B7	U3	OCMADDR(15)
OCMADDR(6)	W1	OCMADDR6	OCMADDR16|GPIO_19	U4	OCMADDR(16)
OCMADDR(7)	W2	OCMADDR7|GPIO_18	OCMADDR17|GPIO_20	T1	OCMADDR(17)
OCMADDR(8)	W3	OCMADDR8|GPIO_G11_B0	OCMADDR18|GPIO_21	T2	OCMADDR(18)
OCMADDR(9)	V1	OCMADDR9|GPIO_G11_B1	OCMADDR19|GPIO_22	T3	OCMADDR(19)

F2

7101-5
GM1601
OCM_DATA

OCMDATA(0)	AD4	OCMDATA0	OCM_TIMER1|PWM3|GPIO_13	D25	I117	3119 10K	
OCMDATA(1)	AF3	OCMDATA1	OCM_UDI|GPIO_27	M2	I110	3112 100R	UART_RX
OCMDATA(2)	AE3	OCMDATA2	OCM_UDO|GPIO_26	M1	I111	3113 100R	UART_TX
OCMDATA(3)	AD3	OCMDATA3	OCM_INT1|GPIO_30	L2	I112	3114 10K	
OCMDATA(4)	AF2	OCMDATA4	OCM_INT2|GPI_10	L1	I113	3115 10K	+3V3_SW
OCMDATA(5)	AE2	OCMDATA5	OCM_WE_	R3	#OCM_WE		F2
OCMDATA(6)	AD2	OCMDATA6	OCM_RE_	R2	#OCM_RE		
OCMDATA(7)	AF1	OCMDATA7	OCM_CS0_|GPIO_23	T4	I114	3116 10K	
OCMDATA(8)	AE1	OCMDATA8|GPIO_G10_B0	OCM_CS1_|GPIO_24	P1	I115	3117 10K	+3V3_SW
OCMDATA(9)	AD1	OCMDATA9|GPIO_G10_B1	OCM_CS2_|GPIO_25	P2	I116	3118 10K	
OCMDATA(10)	AC1	OCMDATA10|GPIO_G10_B2	ROM_CS_|GPI_9	R1	#ROM_CS		F2
OCMDATA(11)	AC2	OCMDATA11|GPIO_G10_B3					
OCMDATA(12)	AC3	OCMDATA12|GPIO_G10_B4					
OCMDATA(13)	AB1	OCMDATA13|GPIO_G10_B5					
OCMDATA(14)	AB2	OCMDATA14|GPIO_G10_B6					
OCMDATA(15)	AB3	OCMDATA15|GPIO_G10_B7					

+3V3_SW
3110 10K
3111 10K
6101 BZX384-C6V8
6102 BZX384-C6V8

GPROBE UART
1101
F110
F111
F112
B3B-PH-SM4-TBT(LF)

3139 123 6225.1

G_16860_019.eps
240107

1080P Panel: Flash & NVM

F2 FLASH & NVM

F2

F1

F1

+3V3_IO

2210 100n

2211 10u 16V

7201 M29W400DT-55N6

EPROM 512Kx8/256Kx16

OCMADDR(1) OCMADDR(2) OCMADDR(3) OCMADDR(4) OCMADDR(5) OCMADDR(6) OCMADDR(7) OCMADDR(8) OCMADDR(9) OCMADDR(10) OCMADDR(11) OCMADDR(12) OCMADDR(13) OCMADDR(14) OCMADDR(15) OCMADDR(16) OCMADDR(17) OCMADDR(18)

OCMDATA(0) OCMDATA(1) OCMDATA(2) OCMDATA(3) OCMDATA(4) OCMDATA(5) OCMDATA(6) OCMDATA(7)

A 0 4M-1

D0 A-1 NC

RB RP WE OE CE BYTE

#OCM_WE #OCM_RE #ROM_CS

3232 1K0 3217 220K

2212 10n 2213 10n

F1

OCMADDR(0) F211
OCMADDR(1) F213
OCMADDR(2) F215
OCMADDR(3) F217
OCMADDR(4) F221
OCMADDR(5) F223
OCMADDR(6) F225
OCMADDR(7) F226
OCMADDR(8) F227
OCMADDR(9) F229
OCMADDR(10) F231
OCMADDR(11) F232
OCMADDR(12) F234
OCMADDR(19) F235
OCMADDR(17) F236
OCMADDR(18) F237
OCMADDR(16) F240
OCMADDR(14) F243
OCMADDR(13) F246
OCMADDR(15) F248

+3V3_IO

10K 3210 10K 3211 10K 3212 10K 3213

3205-1 3205-2 3205-3 3205-4 10K

3204-1 3204-2 3204-3 3204-4 10K

3230 3231 3226 3227 10K

3202-1 3202-3 3202-4 3202-2 10K

+3V3_IO

3214 10K 3215 10K 3216 10K

F230 F233 F241

RES 3218 RES 3219 RES 3228

F5 F6 F6

NVM_WP_SCALER SCL_IO SDA_IO

F250 F251 F254

+3V3_SW +3V3_SW

RES 3229 10K

7202 RES

M24C32-WMN6

Φ (4Kx8) EEPROM

WC SCL SDA ADR

100n RES 2214

+3V3_SW

3V2

2215 100n

1201 SKQR

For Software Development only - (RES)

F253 0V

7203 PST596J

MR SUB VCC GND VOUT

F252 3V2

3222 1K0

1u0 2216

3223 10K RES

1SS356 6210

I215 3224 330R MAIN_RESET

3225 10K RES

#RESET F6

F3

BZX384-C6V8 6211

PCB MB 1080 BOLT-ON 12NC : 3139_123_62241_02
PCB SB 1080 BOLT-ON 12NC : 3139_123_62251_02

1201 F8
2210 B6
2211 B6
2212 D4
2213 D5
2214 F7
2215 F8
2216 F10
3202-1 D9
3202-2 D9
3202-3 D9
3202-4 D9
3204-1 C9
3204-2 C9
3204-3 C9
3204-4 D9
3205-1 C9
3205-2 C9
3205-3 C9
3205-4 C9
3210 B9
3211 B9
3212 B9
3213 B10
3214 C10
3215 C10
3216 C10
3217 D4
3218 D10
3219 D10
3222 F9
3223 F9
3224 F10
3225 G10
3226 D9
3227 D9
3228 D10
3229 F5
3230 D9
3231 D9
3232 D4
6210 F10
6211 F8
7201 B6
7202 E6
7203 F9
F211 C8
F212 C7
F213 C8
F214 C7
F215 C8
F216 C7
F217 C8
F218 C7
F219 C7
F220 C7
F221 C8
F222 C7
F223 C8
F224 C7
F225 C8
F226 C8
F227 C8
F229 C8
F230 C10
F231 C8
F232 D8
F233 D10
F234 D8
F235 D8
F236 D8
F237 D8
F238 D5
F239 D5
F240 D8
F241 D10
F242 D5
F243 D8
F245 D5
F246 D8
F247 D5
F248 D8
F250 F5
F251 F5
F252 F9
F253 F8
F254 F5
I215 F10

3139 123 6225.1

G_16860_020.eps
240107

1080P Panel: LVDS In

F3 LVDS IN

F3

7101-6
GM1601
VIDEO

VCLAMP|GPIO_31 B17 — 3357 10K
VDV|VSOG|GPIO07 D20 — F310 — VDV
VODD|HSOUT|GPIO_06 B20 — F311 — 4310 RES
VVS|GPIO_05 C20 — F312 — VVS
VHS_CSYNC|GPIO_04 D19 — F313 — VHS_CSYNC
4311 — I313 — VFF

RES: 3310 270R, 3311 270R, 3312 270R

3314 10K I310 D16 SVCLK|GPI_0
3315 10K I311 C14 SVHSYNC|GPIO_02
3316 10K I312 B14 SVVSYNC|GPIO_01
3318 10K I314 A14 SVODD|GPIO_00
3319 10K I315 A17 SVDV|VCOAST|GPIO_03
3320 10K I316 D14 SVDATA7|GPIO_G00_B7
3321 10K I317 A15 SVDATA6|GPIO_G00_B6
3323 10K I318 B15 SVDATA5|GPIO_G00_B5
3324 10K I319 C15 SVDATA4|GPIO_G00_B4
3325 10K I320 D15 SVDATA3|GPIO_G00_B3
3326 10K I321 A16 SVDATA2|GPIO_G00_B2
3327 10K I322 B16 SVDATA1|GPIO_G00_B1
3329 10K I323 C16 SVDATA0|GPIO_G00_B0

VCLK F333 A20 VCLK|GPI_01

RES 3331 270R

VGRN0|GPIO_G02_B0 A23 — F316 — VGRN(0)
VGRN1|GPIO_G02_B1 C22 — F318 — VGRN(1)
VGRN2|GPIO_G02_B2 B22 — F319 — VGRN(2)
VGRN3|GPIO_G02_B3 A22 — F321 — VGRN(3)
VGRN4|GPIO_G02_B4 D21 — F322 — VGRN(4)
VGRN5|GPIO_G02_B5 C21 — F324 — VGRN(5)
VGRN6|GPIO_G02_B6 B21 — F325 — VGRN(6)
VGRN7|GPIO_G02_B7 A21 — F327 — VGRN(7)

VRED0|GPIO_G01_B0 C19 — F329 — VRED(0)
VRED1|GPIO_G01_B1 B19 — F330 — VRED(1)
VRED2|GPIO_G01_B2 A19 — F332 — VRED(2)
VRED3|GPIO_G01_B3 D18 — F334 — VRED(3)
VRED4|GPIO_G01_B4 C18 — F335 — VRED(4)
VRED5|GPIO_G01_B5 B18 — F336 — VRED(5)
VRED6|GPIO_G01_B6 A18 — F338 — VRED(6)
VRED7|GPIO_G01_B7 C17 — F339 — VRED(7)

VBLU0|GPIO_G03_B0 B25 — F341 — VBLU(0)
VBLU1|GPIO_G03_B1 A25 — F342 — VBLU(1)
VBLU2|GPIO_G03_B2 D24 — F343 — VBLU(2)
VBLU3|GPIO_G03_B3 C24 — F345 — VBLU(3)
VBLU4|GPIO_G03_B4 B24 — F346 — VBLU(4)
VBLU5|GPIO_G03_B5 A24 — F348 — VBLU(5)
VBLU6|GPIO_G03_B6 C23 — F349 — VBLU(6)
VBLU7|GPIO_G03_B7 B23 — F351 — VBLU(7)

VRED(2) 27, VRED(3) 29, VRED(4) 30, VRED(5) 32, VRED(6) 33, VRED(7) 35, VGRN(2) 37
VGRN(3) 38, VGRN(4) 39, VGRN(5) 43, VGRN(6) 45, VGRN(7) 46, VBLU(2) 47, VBLU(3) 51
VBLU(4) 53, VBLU(5) 54, VBLU(6) 55, VBLU(7) 1, VHS_CSYNC 3, VVS 5, VDV 6
VRED(0) 7, VRED(1) 34, VGRN(0) 41, VGRN(1) 42, VBLU(0) 49, VBLU(1) 50, VFF 2

RES: 270R ×24 (3333–3340, 3341–3348, 3349–3356)

+3V3_LVDSA: 2316 1u0, 2315 100n
+3V3_LVDSVCC: 2314 100n
+3V3_LVDSD: 2313 100n, 2312 100n, 2311 100n, 2310 100n

PLLVCC 23, LVDSVCC 13, VCC 56/48/40/31

LCD PANEL INTERFACE RECEIVER

RA: RA+ 10, RA- 9
RB: RB+ 12, RB- 11
RC: RC+ 16, RC- 15
RD: RD+ 20, RD- 19
RCLK: RCLK+ 18, RCLK- 17
PDWN 25 — I324 — 3332 4K7 — +3V3_LVDSD
CLKOUT 26 — VCLK

3317 100R, 3322 100R, 3328 100R, 3330 100R

RA+ RA- RB+ RB- RC+ RC- RD+ RD- RCLK+ RCLK-

PLLGND 24 22, GND 52 44 36 28 4, LVDSGND 21 14 8

+VDISP — F314 — 100n 2317

B4B-PH-SM4-TBT(LF)
1302
4312 4313 4314 RES

CON_STND_MAL_N40_M2
1G51
F5 MAIN_SCL F315 — 4315
MAIN_SDA F317 — 4316
F2 MAIN_RESET F320 — 4317
F323 F326 F328 F331 F337 F340 F344 F354 F350 F352 F353
DF13-40DP-1.25V

PCB MB 1080 BOLT-ON 12NC : 3139_123_62241_02
PCB SB 1080 BOLT-ON 12NC : 3139_123_62251_02

"300" ~ "399"

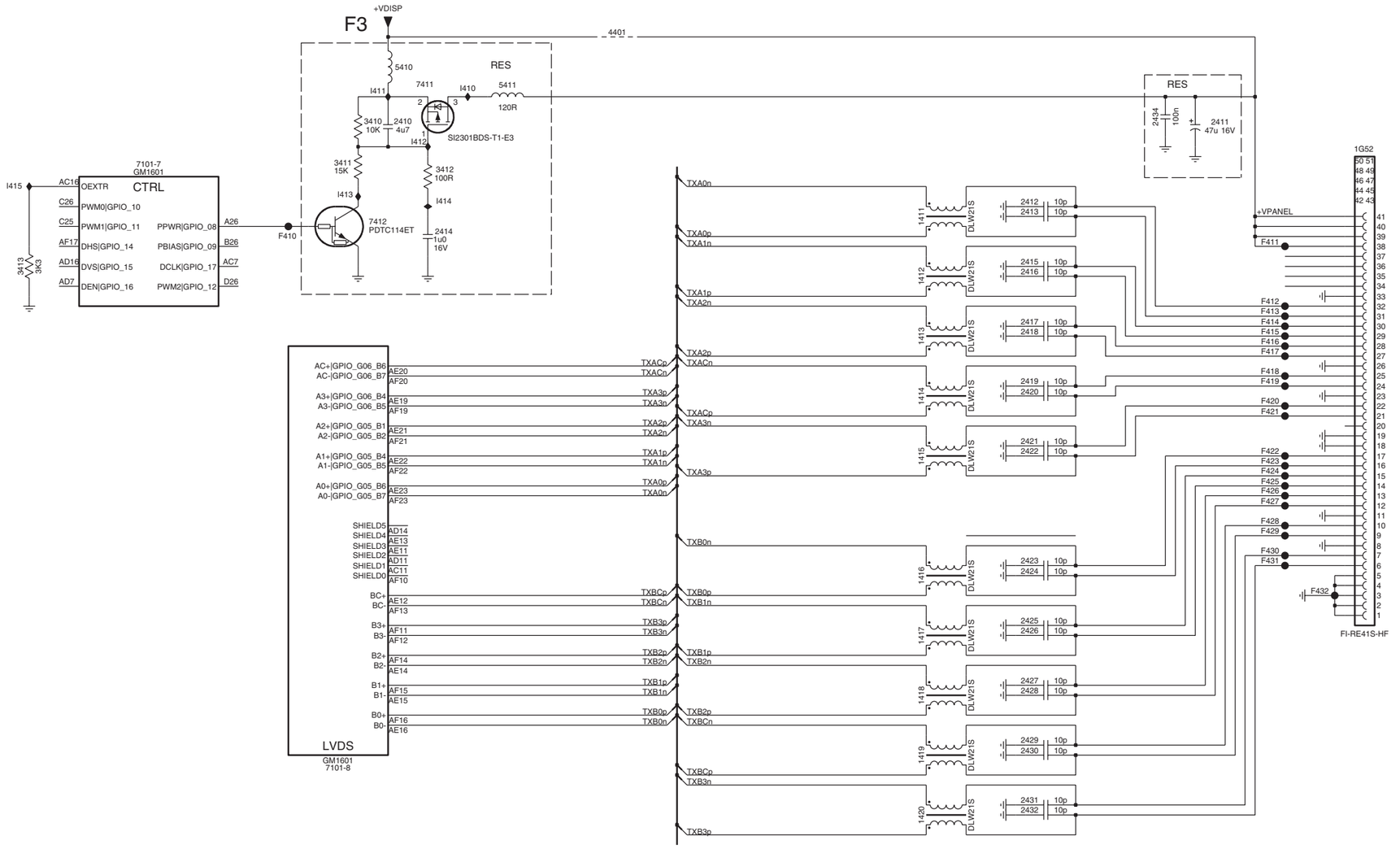
3139 123 6225.1

G_16860_021.eps
240107

1302 B12 F346 D6
1G51 C12 F348 D6
2310 B10 F349 E6
2311 B10 F350 E11
2312 B9 F351 E6
2313 B9 F352 E11
2314 B8 F353 F11
2315 B8 F354 D11
2316 B7 I310 B2
2317 F10 I311 C2
3310 B6 I312 C2
3311 B6 I313 C6
3312 B6 I314 C2
3313 C10 I315 C2
3314 B2 I316 C2
3315 C2 I317 C2
3316 C2 I318 C2
3317 C9 I319 C2
3318 C2 I320 C2
3319 C2 I321 C2
3320 C2 I322 C2
3321 C2 I323 D2
3322 D9 I324 E9
3323 C2
3324 C2
3325 C2
3326 C2
3327 D2
3328 D9
3329 D2
3330 E9
3331 D2
3332 E10
3333 F4
3334 F5
3335 F5
3336 F5
3337 F5
3338 F5
3339 F5
3340 F5
3341 F5
3342 F5
3343 F5
3344 F5
3345 F5
3346 F5
3347 F6
3348 F6
3349 F6
3350 F6
3351 F6
3352 F6
3353 F6
3354 F6
3355 F6
3356 F6
3357 B5
4310 B5
4311 C5
4312 B11
4313 B11
4314 B11
4315 C12
4316 C12
4317 C12
7101-6 B3
7301 C9
F310 B5
F311 B5
F312 B5
F313 C5
F314 E10
F315 C11
F316 C6
F317 C11
F318 C6
F319 C6
F320 C11
F321 C6
F322 C6
F323 C11
F324 C6
F325 C6
F326 C11
F327 C6
F328 D11
F329 C6
F330 D6
F331 D11
F332 D6
F333 D2
F334 D6
F335 D6
F336 D6
F337 D11
F338 D6
F339 D6
F340 D11
F341 D6
F342 D6
F343 D6
F344 D11
F345 D6

1080P Panel: LVDS Out

F4 LDVS OUT **F4**



PCB MB 1080 BOLT-ON 12NC : 3139_123_62241_02
PCB SB 1080 BOLT-ON 12NC : 3139_123_62251_02

"400" ~ "499"

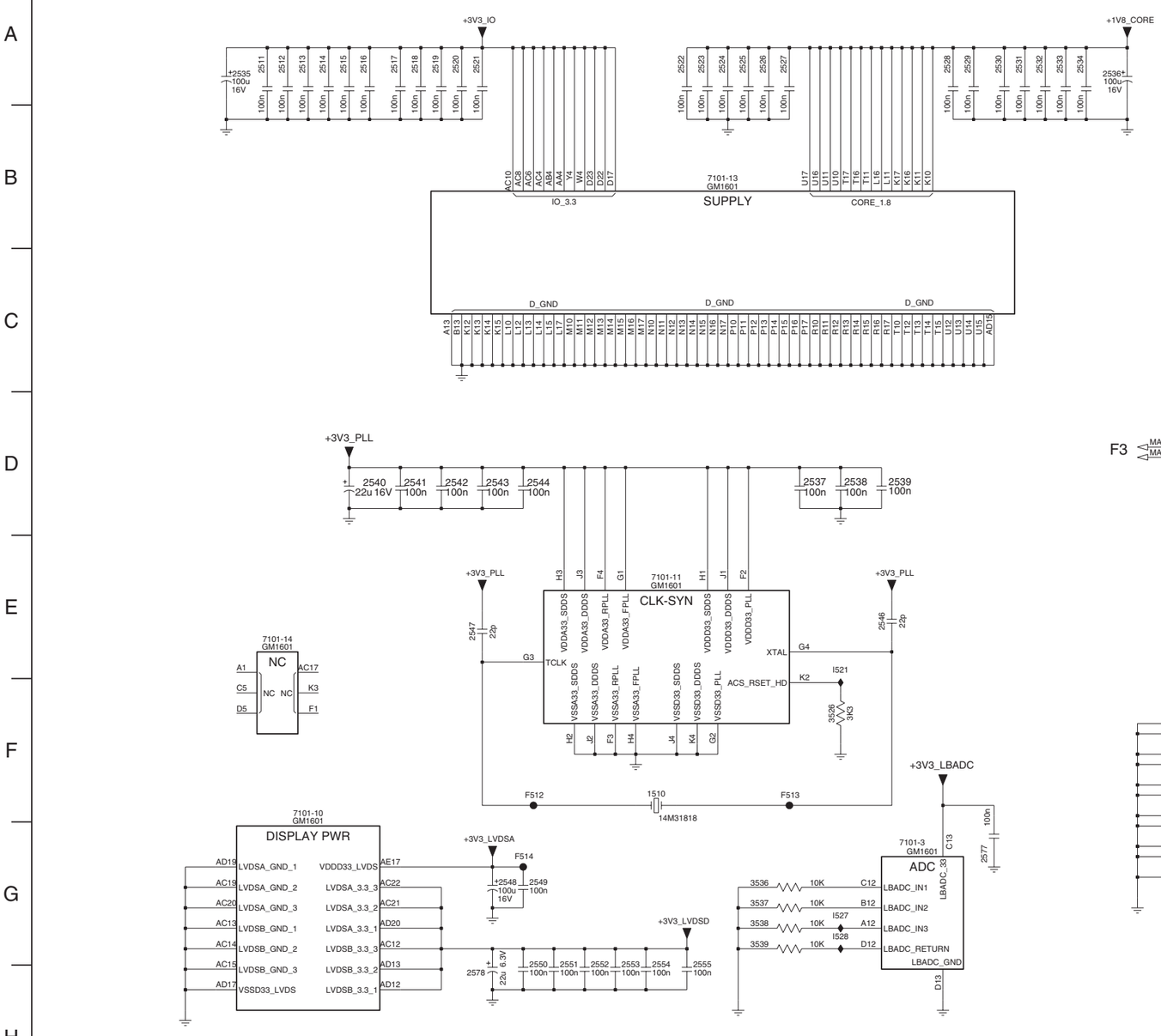
3139 123 6225.1

G_16860_022.eps
240107

1411 B8
1412 C8
1413 C8
1414 D8
1415 D8
1416 E8
1417 E8
1418 F8
1419 F8
1420 G8
1G52 B11
2410 B4
2411 B10
2412 B9
2413 B9
2414 C4
2415 C9
2416 C9
2417 C9
2418 C9
2419 D9
2420 D9
2421 D9
2422 D9
2423 E9
2424 E9
2425 E9
2426 E9
2427 F9
2428 F9
2429 F9
2430 F9
2431 G9
2432 G9
2434 B10
3410 B4
3411 B4
3412 B4
3413 C1
4401 A6
5410 A4
5411 A5
7101-7 B2
7101-8 F4
7411 B4
7412 C4
F410 C3
F411 C10
F412 C10
F413 C10
F414 C10
F415 C10
F416 C10
F417 C10
F418 D10
F419 D10
F420 D10
F421 D10
F422 D10
F423 D10
F424 D10
F425 D10
F426 D10
F427 E10
F428 E10
F429 E10
F430 E10
F431 E10
F432 E11
I410 B5
I411 B4
I412 B4
I413 B4
I414 B4
I415 B1

1080P Panel: Supply In

F5 SUPPLY IN



"500" ~ "599"

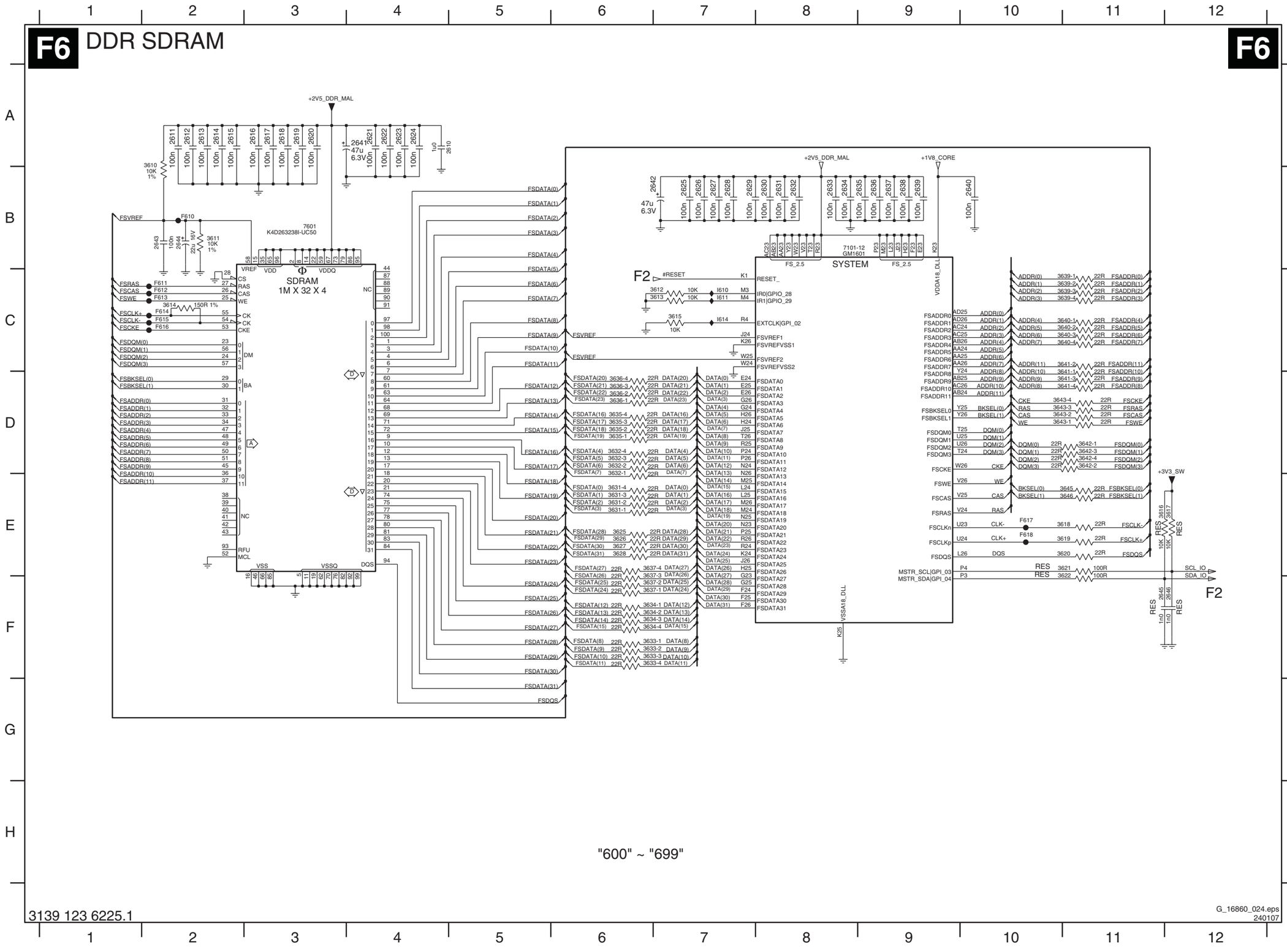
3139 123 6225.1

G_16860_023.eps
240107

1502 B12 7101-10 F2
1510 F5 7101-11 E5
2511 A2 7101-13 B5
2512 A2 7101-14 E2
2513 A2 7101-2 F10
2514 A2 7101-3 G7
2515 A3 7101-9 A9
2516 A3 F510 A12
2517 A3 F511 A12
2518 A3 F512 F4
2519 A3 F513 F6
2520 A3 F514 G4
2521 A3 I510 B11
2522 A5 I511 B11
2523 A5 I512 B11
2524 A5 I513 D10
2525 A5 I514 D10
2526 A5 I515 D10
2527 A6 I516 D10
2528 A7 I517 D10
2529 A7 I518 D10
2530 A7 I519 E10
2531 A7 I520 E10
2532 A7 I521 E6
2533 A8 I522 F9
2534 A8 I523 F9
2535 A2 I524 F9
2536 A8 I525 F9
2537 D6 I526 G9
2538 D6 I527 G6
2539 D6 I528 G6
2540 D3
2541 D3
2542 D3
2543 D4
2544 D4
2546 E6
2547 E3
2548 G4
2549 G4
2550 G4
2551 G4
2552 G4
2553 G5
2554 G5
2555 G5
2556 D9
2557 D9
2558 C11
2559 C12
2560 C12
2561 C12
2562 C12
2563 C10
2564 C10
2565 C10
2566 F9
2567 F9
2568 F9
2569 F9
2570 F11
2571 F11
2572 F11
2573 F11
2574 F11
2575 F9
2576 F12
2577 G7
2578 H3
3510 A11
3511 A11
3512 B11
3513 B11
3514 B11
3515 D9
3516 D9
3517 D9
3518 D9
3519 D9
3520 D9
3521 E9
3522 E9
3523 E9
3524 F9
3525 F9
3526 F6
3527 F9
3528 F9
3529 F9
3530 F9
3531 F9
3532 G9
3533 G9
3534 G9
3535 G9
3536 G5
3537 G5
3538 G5
3539 G5
3540 D9
3541 D9
3542 D9
3543 D9
7101-1 C11

1080P Panel: DDR SDRAM

F6 DDR SDRAM

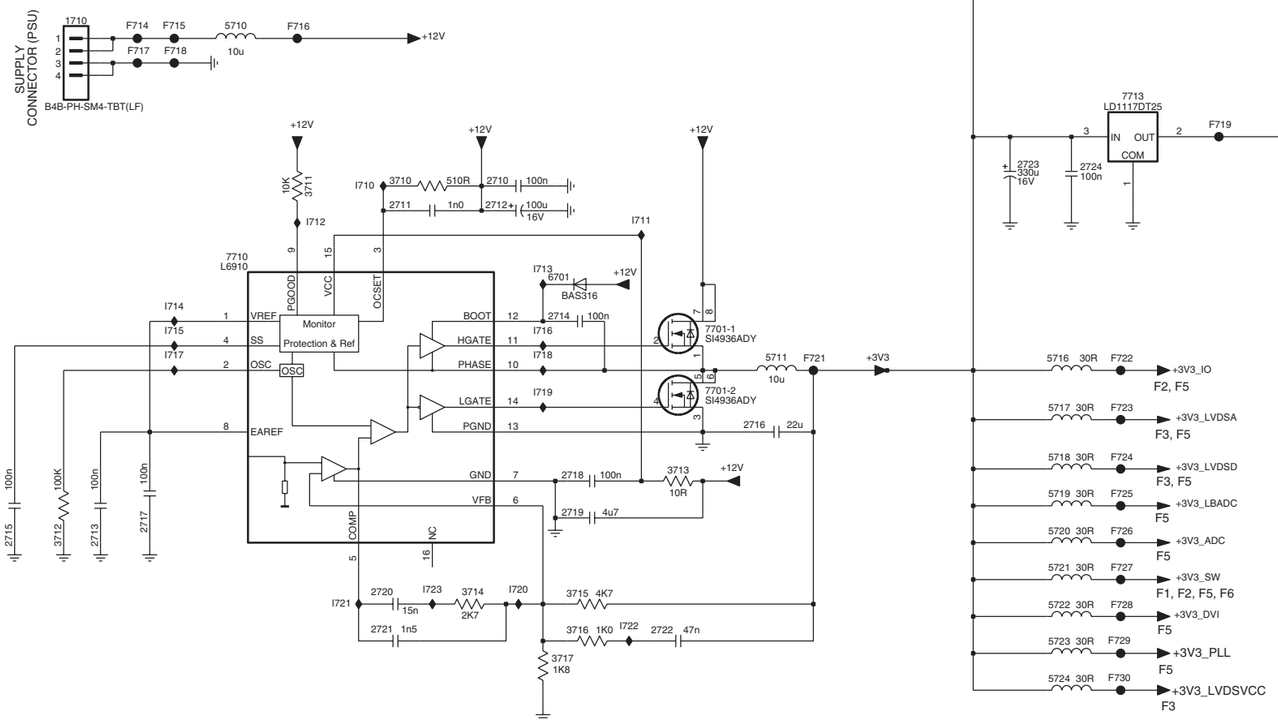


2610 A4 7101-12 B8
2611 A2 7601 B3
2612 A2 F610 B2
2613 A2 F611 C2
2614 A2 F612 C2
2615 A2 F613 C2
2616 A3 F614 C2
2617 A3 F615 C2
2618 A3 F616 C2
2619 A3 F617 E10
2620 A3 F618 E10
2621 A4 I610 C7
2622 A4 I611 C7
2623 A4 I614 C7
2624 A4
2625 B7
2626 B7
2627 B7
2628 B7
2629 B7
2630 B8
2631 B8
2632 B8
2633 B8
2634 B8
2635 B8
2636 B9
2637 B9
2638 B9
2639 B9
2640 B10
2641 A4
2642 B6
2643 B2
2644 B2
2645 F11
2646 F12
3610 A2
3611 B2
3612 C7
3613 C7
3614 C2
3615 C7
3616 E11
3617 E12
3618 E11
3619 E11
3620 E11
3621 E11
3622 F11
3625 E6
3626 E6
3627 E6
3628 E6
3631-1 E6
3631-2 E6
3631-3 E6
3631-4 E6
3632-1 E6
3632-2 D6
3632-3 D6
3632-4 D6
3633-1 F6
3633-2 F6
3633-3 F6
3633-4 F6
3634-1 F6
3634-2 F6
3634-3 F6
3634-4 F6
3635-1 D6
3635-2 D6
3635-3 D6
3635-4 D6
3636-1 D6
3636-2 D6
3636-3 D6
3636-4 D6
3637-1 F6
3637-2 F6
3637-3 F6
3637-4 E6
3639-1 C11
3639-2 C11
3639-3 C11
3639-4 C11
3640-1 C11
3640-2 C11
3640-3 C11
3640-4 C11
3641-1 D11
3641-2 C11
3641-3 D11
3641-4 D11
3642-1 D11
3642-2 D11
3642-3 D11
3642-4 D11
3643-1 D11
3643-2 D11
3643-3 D11
3643-4 D11
3645 E11
3646 E11

1080P Panel: DC Power Supply

F7 DC POWER SUPPLY

F7



"700" ~ "799"

1710 C2
2710 D5
2711 D4
2712 D5
2713 F2
2714 E5
2715 F2
2716 E6
2717 F3
2718 F5
2719 F5
2720 F4
2721 F4
2722 F6
2723 D8
2724 D8
2727 B9
2728 B9
2729 B8
2730 B8
3710 D4
3711 D4
3712 F2
3713 E6
3714 F5
3715 F5
3716 F5
3717 G5
5710 C3
5711 E6
5712 B10
5713 B10
5714 C10
5715 C10
5716 E8
5717 E8
5718 E8
5719 F8
5720 F8
5721 F8
5722 F8
5723 F8
5724 G8
6701 D5
7701-1 E6
7701-2 E6
7710 D3
7713 C8
7714 B8
F710 B9
F711 B10
F712 B10
F713 C10
F714 C3
F715 C3
F716 C4
F717 C3
F718 C3
F719 C9
F720 C10
F721 E7
F722 E8
F723 E8
F724 E8
F725 F8
F726 F8
F727 F8
F728 F8
F729 F8
F730 G8
I710 D4
I711 D6
I712 D4
I713 D5
I714 E3
I715 E3
I716 E5
I717 E3
I718 E5
I719 E5
I720 F5
I721 F4
I722 F5
I723 F4

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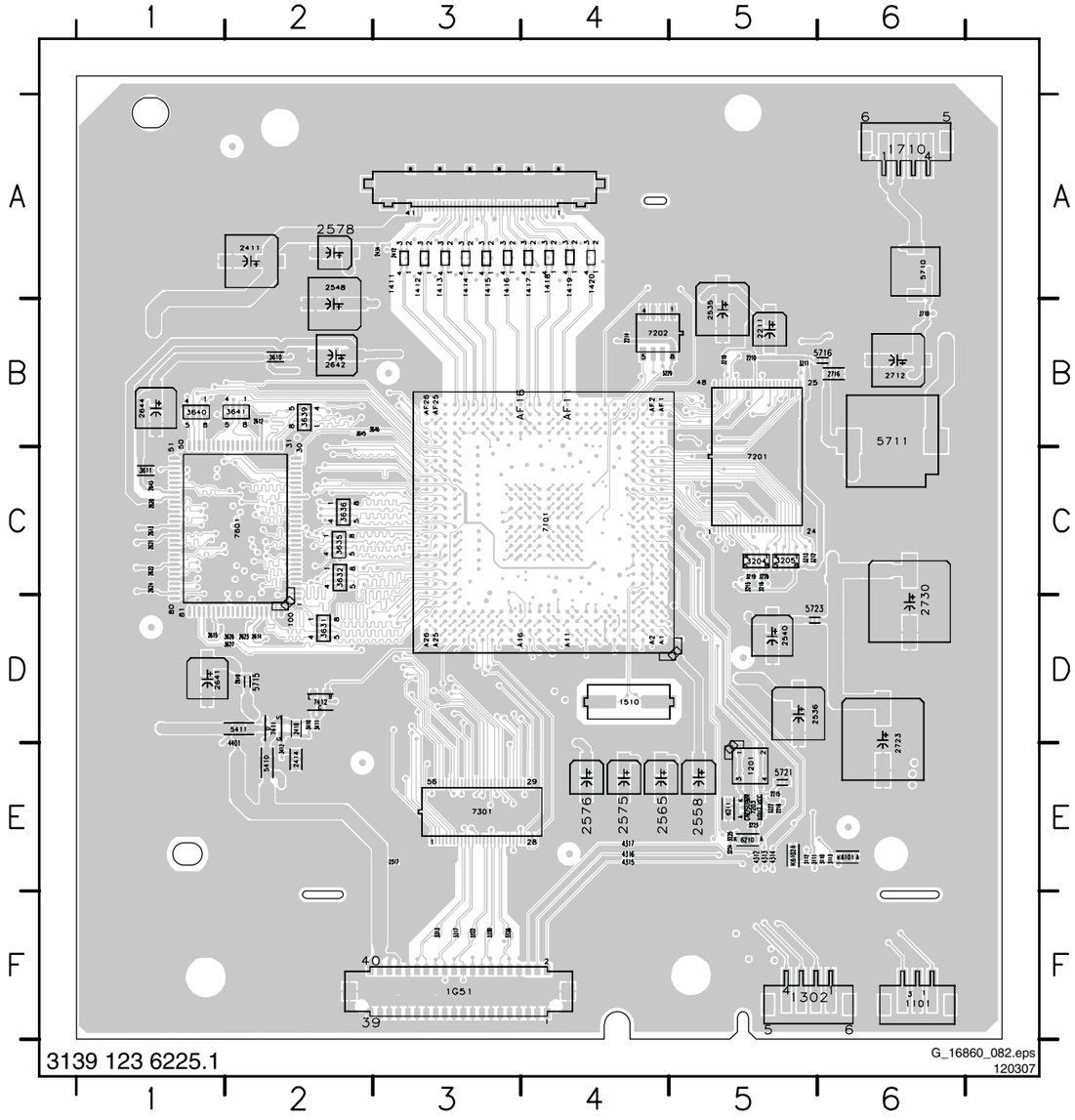
Layout 1080P Panel (Top Side)

1101	F6	1417	A4	2214	B4	2535	B5	2610	D2	2624	C1	2730	D6	3212	C5	3228	C5	3412	E2	3639	B2	4316	E4	5721	E5	7203	E5
1201	E5	1418	A4	2215	E5	2536	D5	2612	B2	2641	D1	3110	E6	3213	C5	3229	B4	3610	B2	3640	B1	4317	E4	5723	D5	7301	E3
1302	F5	1419	A4	2216	E5	2540	D5	2613	C1	2642	B2	3111	E5	3215	C5	3313	F3	3611	C1	3641	B2	4401	E2	6101	E6	7411	D2
1411	A3	1420	A4	2317	E3	2548	A2	2614	D2	2643	C1	3112	E5	3216	C5	3317	F3	3627	D2	3645	B2	5410	E2	6102	E5	7412	D2
1412	A3	1510	D4	2410	D2	2558	E5	2615	D1	2644	B1	3113	E6	3219	C5	3322	F3	3628	D2	3646	B3	5411	D2	6210	E5	7601	C2
1413	A3	1710	A6	2411	A2	2565	E4	2620	C1	2710	B6	3204	C5	3222	E5	3328	F3	3631	D2	4312	E5	5710	A6	6211	E5		
1414	A3	1G51	F3	2412	A3	2575	E4	2621	C1	2712	B6	3205	C5	3223	E5	3330	F3	3632	C2	4313	E5	5711	B6	7101	C4		
1415	A3	2210	B5	2414	E2	2576	E4	2622	C1	2716	B6	3210	B5	3224	E5	3410	D2	3635	C2	4314	E5	5715	D2	7201	C5		
1416	A3	2211	B5	2434	A3	2578	A2	2623	D2	2723	E6	3211	B5	3225	E5	3411	D2	3636	C2	4315	E4	5716	B6	7202	B4		



3139 123 6225.1

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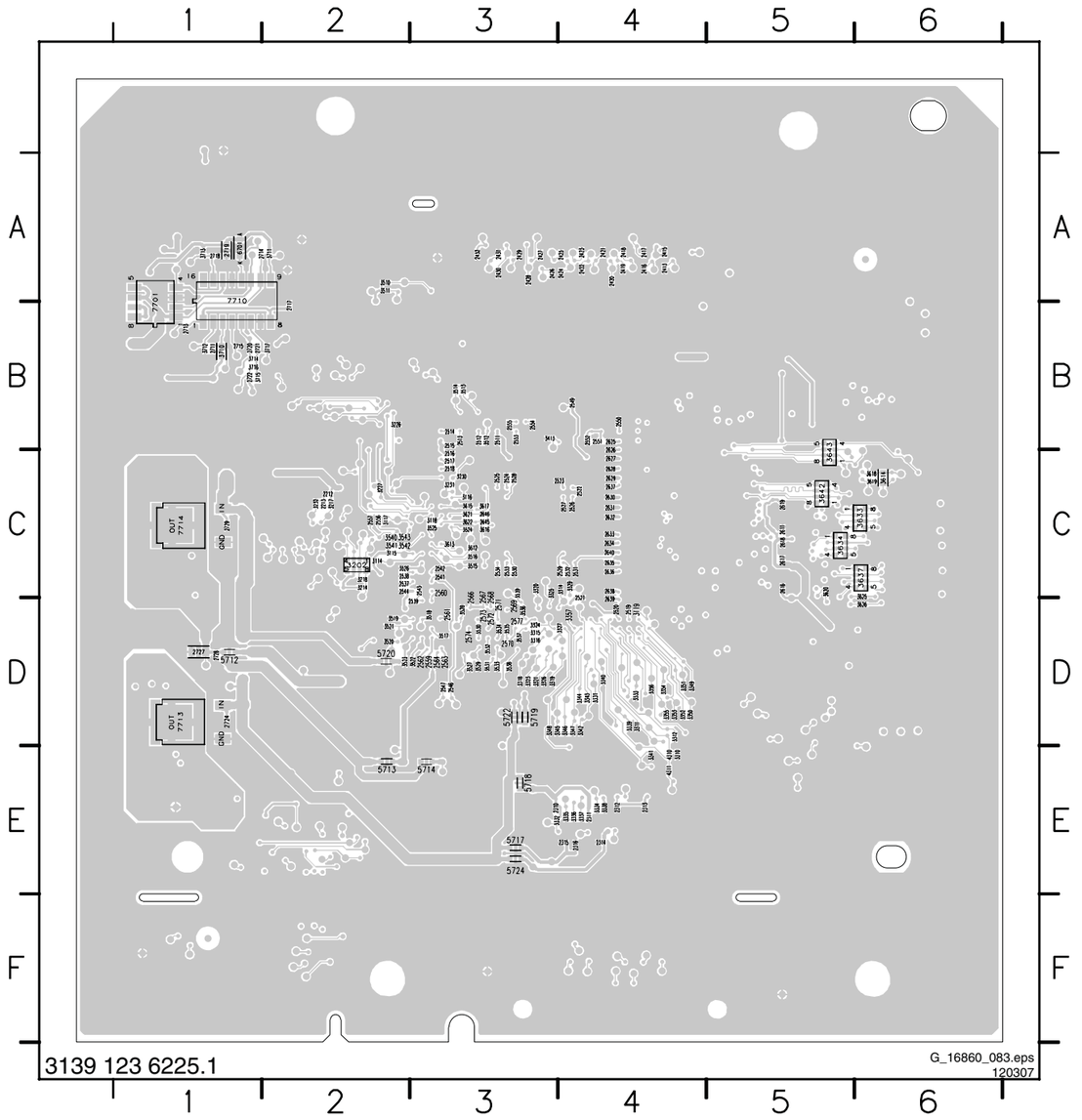
120307

Layout 1080P Panel (Bottom Side)

2212	C2	2422	A4	2517	C3	2534	C3	2556	C2	2577	D3	2636	C4	2724	D1	3231	C3	3329	C4	3347	D4	3515	C3	3532	D3	3617	C3	3714	B1	7710	A1
2213	C2	2423	A4	2518	C3	2537	C2	2557	C2	2611	C5	2637	C4	2727	D1	3232	C2	3331	D4	3348	D3	3516	C3	3533	D3	3618	C6	3715	B1	7713	D1
2310	E3	2424	A4	2519	D4	2538	C2	2559	D3	2616	C5	2638	C4	2728	D1	3310	E4	3332	E3	3349	D4	3517	D3	3534	D3	3619	C6	3716	B1	7714	C1
2311	E4	2425	A4	2520	D4	2539	D3	2560	C3	2617	C5	2639	D4	2729	C1	3311	D4	3333	D4	3350	D4	3518	D3	3535	D3	3620	C5	3717	B2		
2312	E4	2426	A3	2521	D4	2541	C3	2561	D3	2618	C5	2640	C4	3114	C2	3312	D4	3334	E4	3351	D4	3519	D2	3536	D3	3621	C3	4310	E4		
2313	E4	2427	A3	2522	C4	2542	C3	2562	D3	2619	C5	2645	C3	3115	C2	3314	C4	3335	E4	3352	D4	3520	D2	3537	D3	3622	C3	4311	E4		
2314	E4	2428	A3	2523	C4	2543	C3	2563	D3	2625	B4	2646	C3	3116	C3	3315	D3	3336	E4	3353	D4	3521	D2	3538	D3	3625	C6	5712	D1		
2315	E4	2429	A3	2524	C3	2544	C2	2564	D3	2626	C4	2711	B1	3117	C2	3316	D3	3337	E4	3354	D4	3522	D3	3539	C3	3626	D6	5713	E2		
2316	E4	2430	A3	2525	C3	2546	D3	2566	D3	2627	C4	2713	B1	3118	C3	3318	D3	3338	E4	3355	D4	3523	D2	3540	C2	3633	C6	5714	E3		
2413	A4	2431	A3	2526	C4	2547	D3	2567	C3	2628	C4	2714	A1	3119	D4	3319	D3	3339	D4	3356	D4	3524	C3	3541	C2	3634	C5	5717	E3		
2415	A4	2432	A3	2527	C4	2549	B4	2568	D3	2629	C4	2715	B1	3202	C2	3320	C3	3340	D4	3357	D4	3525	C3	3542	C2	3637	C6	5718	E3		
2416	A4	2511	B3	2528	C3	2550	B4	2569	D3	2630	C4	2717	B2	3214	C2	3321	D3	3341	E4	3413	B3	3526	C2	3543	C2	3642	C5	5719	D3		
2417	A4	2512	B3	2529	C4	2551	B4	2570	D3	2631	C4	2718	A1	3217	C2	3323	D3	3342	D4	3510	A2	3527	D3	3612	C3	3643	C5	5720	D2		
2418	A4	2513	B3	2530	C3	2552	B4	2571	D3	2632	C4	2719	A1	3218	C2	3324	D3	3343	D4	3511	A2	3528	D3	3613	C3	3710	B1	5722	D3		
2419	A4	2514	B3	2531	C4	2553	B3	2572	D3	2633	C4	2720	B1	3226	B2	3325	C3	3344	D4	3512	B3	3529	D3	3614	C6	3711	A2	5724	E3		
2420	A4	2515	B3	2532	C4	2554	B3	2573	D3	2634	C4	2721	B1	3227	C2	3326	D3	3345	D3	3513	B3	3530	D3	3615	C3	3712	B1	6701	A1		
2421	A4	2516	C3	2533	C3	2555	B3	2574	D3	2635	C4	2722	B1	3230	C3	3327	D4	3346	D4	3514	B3	3531	D3	3616	C3	3713	A1	7701	B1		



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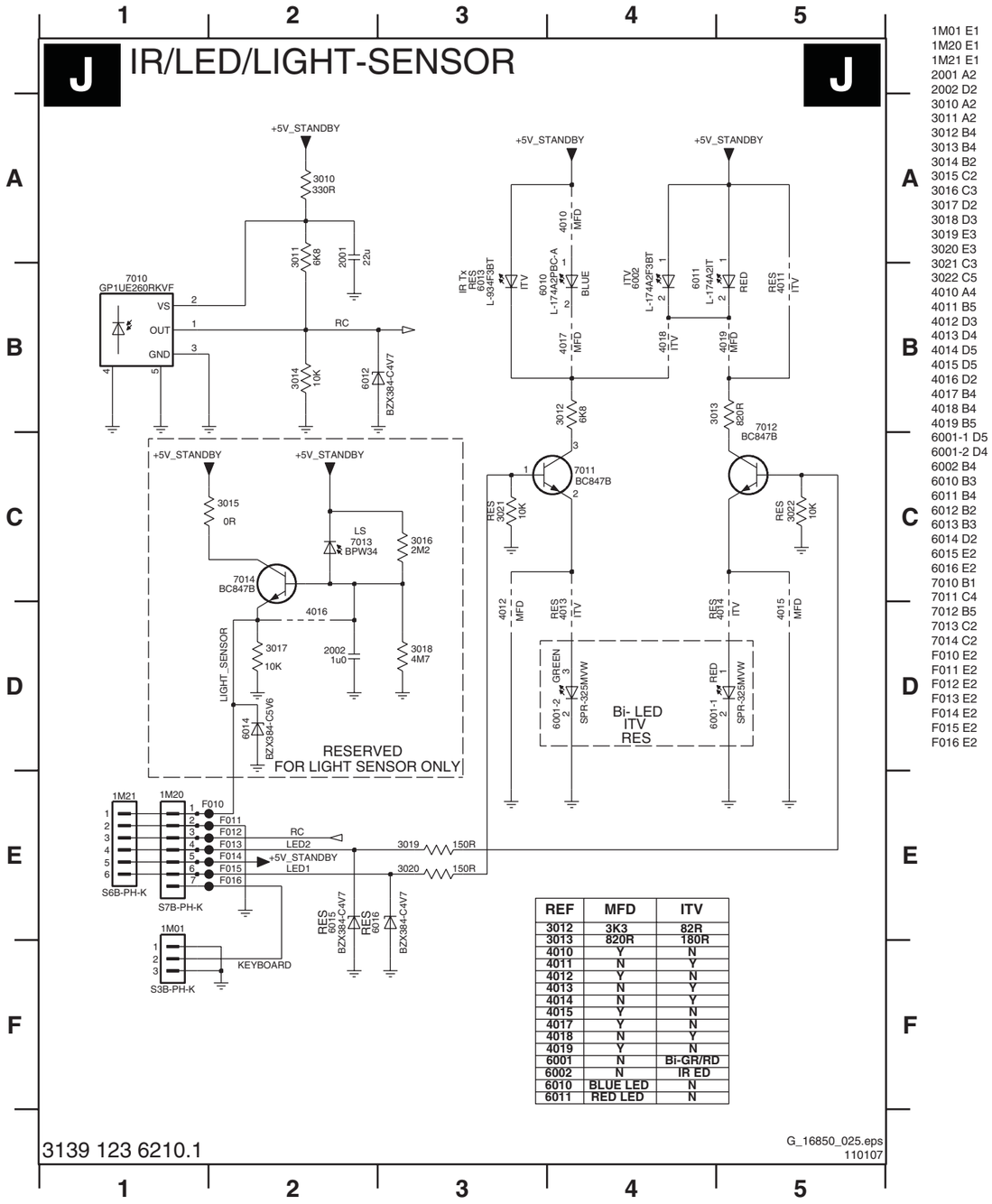
Front IR / LED Panel



REF	MFD	ITV
3012	3K3	82R
3013	820R	180R
4010	Y	N
4011	N	Y
4012	Y	N
4013	N	Y
4014	N	Y
4015	Y	N
4017	Y	N
4018	N	Y
4019	Y	N
6001	N	Bi-GR/RD
6002	N	IR ED
6010	BLUE LED	N
6011	RED LED	N

1M01 E1
1M20 E1
1M21 E1
2001 A2
2002 D2
3010 A2
3011 A2
3012 B4
3013 B4
3014 B2
3015 C2
3016 C3
3017 D2
3018 D3
3019 E3
3020 E3
3021 C3
3022 C5
4010 A4
4011 B5
4012 D3
4013 D4
4014 D5
4015 D5
4016 D2
4017 B4
4018 B4
4019 B5
6001-1 D5
6001-2 D4
6002 B4
6010 B3
6011 B4
6012 B2
6013 B3
6014 D2
6015 E2
6016 E2
7010 B1
7011 C4
7012 B5
7013 C2
7014 C2
F010 E2
F011 E2
F012 E2
F013 E2
F014 E2
F015 E2
F016 E2

Personal Notes:

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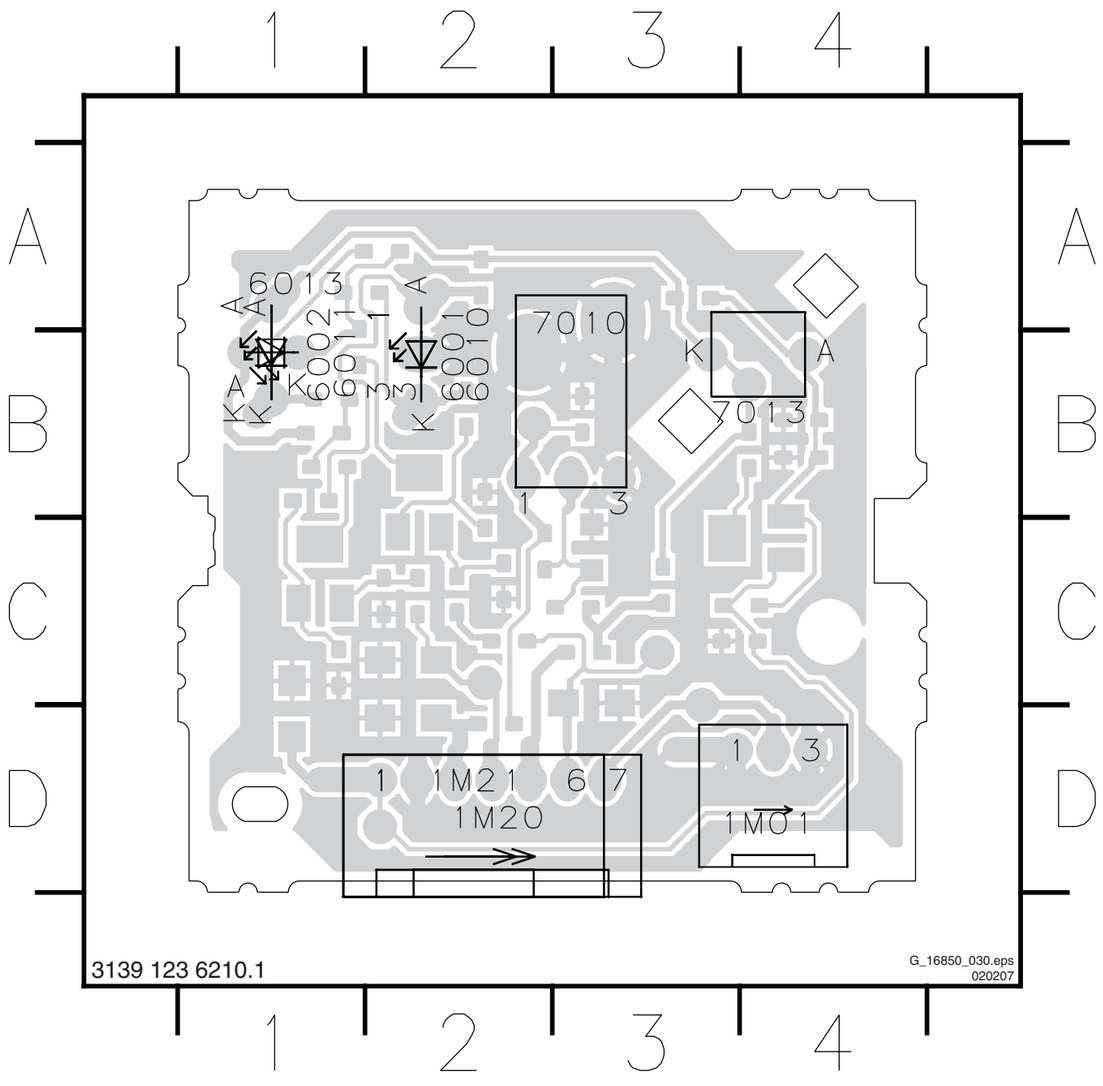
131004

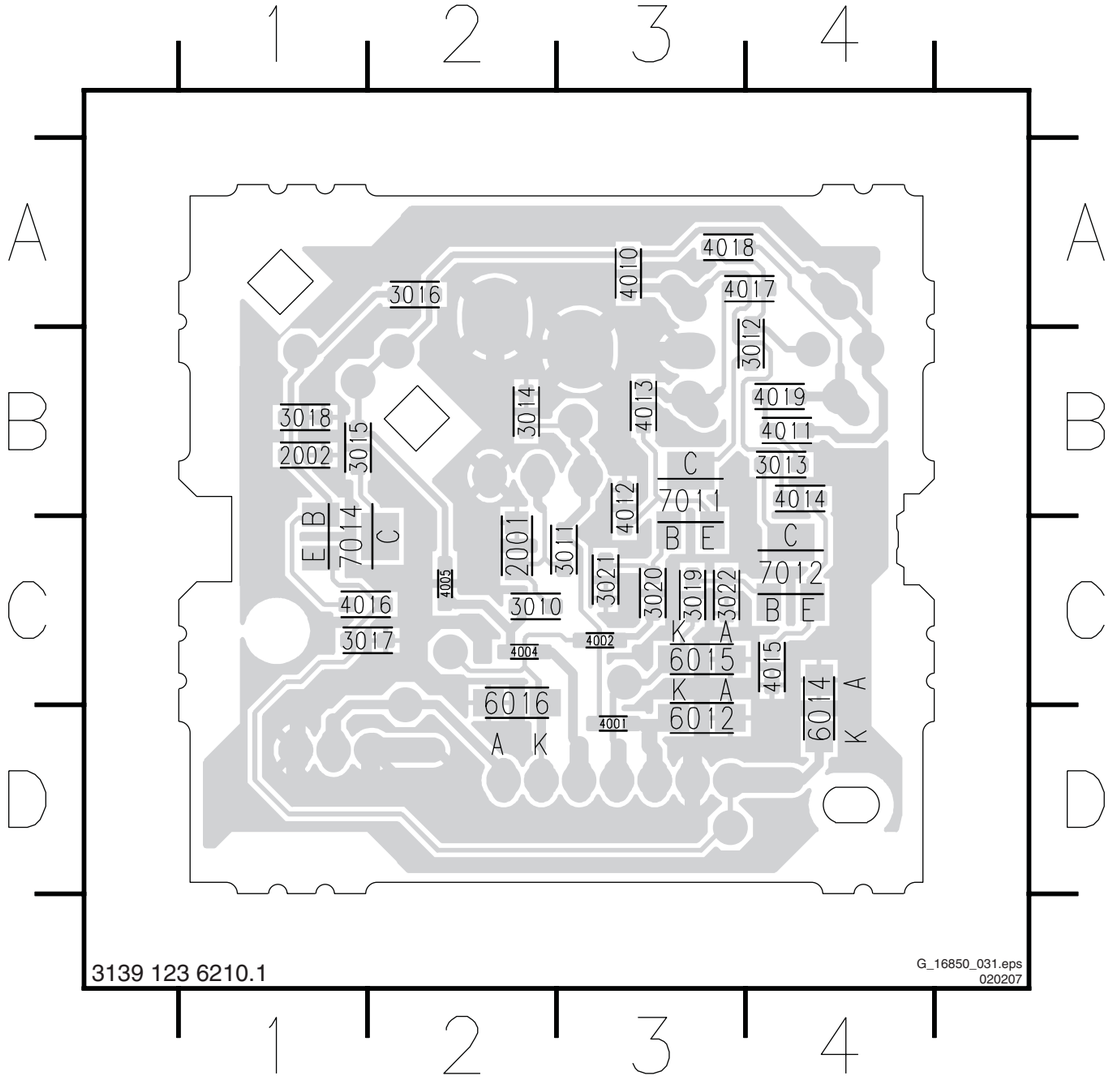
Layout Front IR / LED Panel (Top Side)

1M01	D4	6001	B2	6011	B1	7013	B4
1M20	D2	6002	B1	6013	A1		
1M21	D2	6010	B2	7010	A3		



Layout Front IR / LED Panel (Bottom Side)

2001	C2	3014	B2	3020	C3	4005	C2	4015	C4	6014	D4
2002	B1	3015	B1	3021	C3	4010	A3	4016	C1	6015	C3
3010	C2	3016	A2	3022	C3	4011	B4	4017	A4	6016	C2
3011	C3	3017	C1	4001	D3	4012	B3	4018	A3	7011	B3
3012	B4	3018	B1	4002	C3	4013	B3	4019	B4	7012	C4
3013	B4	3019	C3	4004	C2	4014	B4	6012	D3	7014	C1



8. Alignments

Index of this chapter:
8.1 General Alignment Conditions
8.2 Hardware Alignments
8.3 Software Alignments
8.4 Option Settings

Note: Figures below can deviate slightly from the actual situation, due to the different set executions.

General: The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the CURSOR UP, DOWN, LEFT or RIGHT keys of the remote control transmitter.

8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
- Power supply voltage (depends on region):
  - AP-NTSC: 120 V_{AC} or 230 V_{AC} / 50 Hz (± 10%).
  - AP-PAL-multi: 120 - 230 V_{AC} / 50 Hz (± 10%).
  - EU: 230 V_{AC} / 50 Hz (± 10%).
  - LATAM-NTSC: 120 - 230 V_{AC} / 50 Hz (± 10%).
  - US: 120 V_{AC} / 60 Hz (± 10%).
- Connect the set to the mains via an isolation transformer with low internal resistance.
- Allow the set to warm up for approximately 15 minutes.
- Measure voltages and waveforms in relation to correct ground (e.g. measure audio signals in relation to AUDIO_GND).
  Caution: It is not allowed to use heatsinks as ground.
- Test probe: Ri > 10 Mohm, Ci < 20 pF.
- Use an isolated trimmer/screwdriver to perform alignments.

8.2 Hardware Alignments

There are no hardware alignments foreseen for this chassis, but below find an overview of the most important DC voltages on the SSB. These can be used for checking proper functioning of the DC/DC converters.

Description	Test Point	Specifications (V)			Diagram
		Min.	Typ.	Max.	
+AUDIO_POWER	FB21	11.40	12.00	12.60	B02_DC-DC
-AUDIO_POWER	FB23	-11.40	-12.00	-12.60	B02_DC-DC
+12V_DISP	FB34	11.40	12.00	12.60	B02_DC-DC
+8V	F401	7.60	8.00	8.40	B04C_Audio Proc.
+5V_STANDBY	FB27	4.94	5.20	5.46	B02_DC-DC
+5V_SW	FB16	4.93	5.19	5.45	B02_DC-DC
+5V_D	I411	4.75	5.00	5.25	B04C_Audio Proc.
+5V_AUD	I410	4.75	5.00	5.25	B04C_Audio Proc.
+5V_TUN	I115	4.75	5.00	5.25	B03_Tuner IF
+3V3_STBY	FB13	3.10	3.30	3.50	B02_DC-DC
+3V3_SW	FB17	3.1	3.3	3.5	B02_DC-DC
+3V3_MOJO	FB19	3.1	3.3	3.5	B02_DC-DC
+3V3	FJ01	3.2	3.27	3.4	B03F_DVB-MOJO
+3V3FE	FF14	3.2	3.27	3.4	B03B_DVB-Demod
+1V8S_SW	FB11	1.70	1.80	1.90	B02_DC-DC
+1V2_MOJO	FB20	1.18	1.25	1.31	B02_DC-DC
+1V2_CORE	FG39	1.14	1.24	1.34	B03D_DVB-MOJO
VDISP	F210	11.40	12.00	12.60	B04B_Video proc.

8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the Tuner and RGB settings can be aligned.
To store the data: Use the RC button “Menu” to switch to the main menu and next, switch to “Stand-by” mode.

8.3.1 Tuner Adjustment (RF AGC Take Over Point)

Purpose: To keep the tuner output signal constant as the input signal amplitude varies.

The LC7.xx chassis comes with two tuner types: the UV1318S for the analogue sets (LC7.1x) and the TD1316AF for the hybrid sets (LC7.2x).

For the digital tuner TD1316AF, no alignment is necessary, as the AGC alignment is done automatically (standard value: “15”), even during analogue reception.

The analogue tuner UV1318S can also use the default value of “15”, however in case of problems use the following method (use multimeter and RF generator):
- Apply a vision IF carrier of 38.9 MHz (105 dBuV = 178 mVrms) to test point F111 (input via 50 ohm coaxial cable terminated with an RC network of series 10nF with 120 ohm to ground).
- Measure voltage on pin 1 of the tuner.
- Adjust AGC (via SAM menu: TUNER -> AGC), until voltage on pin 1 is 3.3 +0.5/-1.0 V.
- Store settings and exit SAM.

8.3.2 RGB Alignment

Before alignment, choose “TV MENU” -> “Picture” and set:
- “Brightness” to “50”.
- “Colour” to “50”.
- “Contrast” to “100”.

White Tone Alignment:
- Activate SAM.
- Select “RGB Align.” -> “White Tone” and choose a colour temperature.
- Use a 100% white screen as input signal and set the following values:
  - All “White point” values initial to “256”.
  - All “BlackL Offset” values to “0”.

In case you have a colour analyser:
- Measure with a calibrated (phosphor- independent) colour analyser (e.g. Minolta CA-210) in the centre of the screen. Consequently, the measurement needs to be done in a dark environment.
- Adjust the correct x,y coordinates (while holding one of the White point registers R, G or B on “256”) by means of decreasing the value of one or two other white points to the correct x,y coordinates (see table “White D alignment values”). Tolerance: dx: ± 0.004, dy: ± 0.004.
- Repeat this step for the other colour Temperatures that need to be aligned.
- When finished return to the SAM root menu and press STANDBY on the RC to store the aligned values to the NVM.

Table 8-1 White D alignment values

Value	Cool (11000 K)	Normal (9000 K)	Warm (6500 K)
x	0.278	0.289	0.314
y	0.278	0.291	0.319

If you do **not** have a colour analyser, you can use the default values. This is the next best solution. The default values are average values coming from production (statistics).
- Set the RED, GREEN and BLUE default values per temperature according to the values in the “Tint settings” table.

- When finished return to the SAM root menu and press STANDBY on the RC to store the aligned values to the NVM.

Table 8-2 Tint settings

Colour Temp.	R	G	B
Cool	243	256	249
Normal	251	256	220
Warm	256	241	189

Black Level Offset Alignment
- Activate SAM.
- Select “RGB Align.” -> “BlackL Offset” and choose a colour.
- Set all “BlackL Offset” values to “0”.
- When finished return to the SAM root menu and press STANDBY on the RC to store the aligned values to the NVM.

Note: For models with “Pixel Plus”, the “Black Offset” (black level offset) should **NOT** be changed in SAM. These offset values of RGB should be set to “0”, and should **NOT** be adjusted. Any adjustment of these values will affect the low light white balance.

ADC YPbPr Gray Scale Alignment
When the grey scale is not correct, use this alignment:
- Activate SAM.
- Select “NVM Editor”.
- Enter address “26(dec)” (ADR).
- Set value (VAL) to “197(dec) ± 25”.
- Store (STORE) the value.

8.4 Option Settings

8.4.1 Introduction

The microprocessor communicates with a large number of I^2C ICs in the set. To ensure good communication and to make digital diagnosis possible, the microprocessor has to know which ICs to address. The presence/absence of these specific ICs (or functions) is made known by the option codes.

Notes:
- After changing the option(s), save them with the STORE command.
- The new option setting becomes active after the TV is switched "off" and "on" again with the mains switch (the EAROM is then read again).

8.4.2 How To Set Option Codes

When the NVM is replaced, all options will require resetting. To be certain that the factory settings are reproduced exactly, you must set all option numbers. You can find the correct option numbers in table “Option Codes OP1...OP7“ below.

How to Change Options Codes
An option code (or “option byte”) represents eight different options (bits). When you change these numbers directly, you can set all options very quickly. All options are controlled via seven option bytes (OP1... OP7).
Activate SAM and select “Options”. Now you can select the option byte (OP1.. OP7) with the CURSOR UP/ DOWN keys, and enter the new 3 digit (decimal) value. For the correct factory default settings, see the next table “Option codes OP1...OP7“. For more detailed information, see the second table “Option codes at bit level“. If an option is set (value “1”), it represents a certain decimal value.
When all the correct options (bits) are set, the sum of the decimal values of each Option Byte (OP) will give the option code.

Sets 12NC	Sets Type	Panel Type	Panel Code (Dec)	Option Byte						
LC07_EU_DTV_LCD_UK (/05)				Group 1				Group 2		
				1	2	3	4	5	6	7
867000025135	26PFL5522D/05	LPL : LC260WX2-SLB2	045	019	023	010	223	009	002	000
		CMO : V260B1-L03	068							
		AUO : T260XW03 V1	067							
867000025134	32PFL5522D/05	LPL : LC320W01-SL06 LPL : LC320W01-SLB1	046							001
		AUO : T315XW02 VD	091							
		CMO : V315B1-L05	069							
867000025148	37PFL5522D/05	LPL : LC370WX1-SLB1 LPL : LC370WX4-SLB1	071							002
		AUO : T370XW02 V5	072							
867000025147	42PFL5522D/05	LPL : LC420WX3-SLA1	073							
		AUO : T420XW01 V8	076							
		LPL : LC420WX5-SLD1 LPL : LC420WX7-SLB1	107							
867000025293	47PFL5522D/05	LPL : LC470WX1-SLA2	109							
LC07_EU_DTV Pan Europe (/12)										
867000026844	26PFL5522D/12	LPL : LC260WX2-SLB2	045	019	023	010	223	009	002	000
		CMO : V260B1-L03	068							
		AUO : T260XW03 V1	067							
867000026848	32PFL5522D/12	LPL : LC320W01-SL06 LPL : LC320W01-SLB1	046							001
		AUO : T315XW02 VD	091							
		CMO : V315B1-L05	069							
867000026866	37PFL5522D/12	LPL : LC370WX1-SLB1 LPL : LC370WX4-SLB1	071							002
		AUO : T370XW02 V5	072							
867000026966	42PFL5522D/12	LPL : LC420WX3-SLA1	073							
		AUO : T420XW01 V8	076							
		LPL : LC420WX5-SLD1 LPL : LC420WX7-SLB1	107							
867000026884	47PFL5522D/12	LPL : LC470WX1-SLA2	109							
LC07_EU_DTV_LCD_Entry +_UK (/05)										
867000025145	26PFL7532D/05	LPL : LC260WX2-SLB2	045	019	023	010	223	009	002	000
		CMO : V260B1-L03	068							
		AUO : T260XW02 V4	049							
867000030842	37PFL7662D/05	AUO : T370HW02 V1	108		151					002
867000030844	42PFL7662D/05	LPL : LC420WU2-SLA1	093							
867000032178	42PFL7682D/05									
867000030855	47PFL7642D/05	LPL : LC470WU4-SLA2	081							
LC07_EU_DTV_LCD_Entry +_Pan Europe (/12)										
867000026846	26PFL7532D/12	LPL : LC260WX2-SLB2	045	019	023	010	223	009	002	000
		CMO : V260B1-L03	068							
		AUO : T260XW02 V4	049							
867000030843	37PFL7662D/12	AUO : T370HW02 V1	108							
867000030841	42PFL7662D/12	LPL : LC420WU2-SLA1	093		151					002
867000032177	42PFL7682D/12									
867000030854	47PFL7642D/12	LPL : LC470WU4-SLA2	081							
LC07_EU_DTV_LCD_Promo_UK (/05)										
867000032495	26PFL3512D/05	CMO : V260B1-L03	068	019	023	010	223	009	002	000
867000032379	32PFL3512D/05	CMO : V315B1-L05	069							001
867000032377	37PFL3512D/05	LPL : LC370WX1-SLB1 LPL : LC370WX4-SLB1	071							002
		AUO : T370XW02 V9	112							
867000032375	42PFL3512D/05	LPL : LC420WX5-SLD1 LPL : LC420WX7-SLB1	107							
		AUO : T420XW01 V9	113							
LC07_EU_DTV_LCD_Promo_Pan Europe (/12)										
867000032492	26PFL3512D/12	CMO : V260B1-L03	068	019	023	010	223	009	002	000
867000032374	32PFL3512D/12	CMO : V315B1-L05	069							001
867000032376	37PFL3512D/12	LPL : LC370WX1-SLB1 LPL : LC370WX4-SLB1	071							002
		AUO : T370XW02 V9	112							
867000032375	42PFL3512D/12	LPL : LC420WX5-SLD1 LPL : LC420WX7-SLB1	107							
		AUO : T420XW01 V9	113							

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Figure 8-1 Option codes OP1...OP7 (for all LC7.2E models)

Option Bit Overview
Below find an overview of the Option Codes on **bit** level.

Table 8-3 Option codes at bit level (OP1-OP4)

Option Byte & Bit	Dec. Value	Option Name	Description
Byte OP1			
Bit 7 (MSB)	128	Reserved	Not Used (Reserved)
Bit 6	64	CHINA	ON = SW is for CHINA only OFF = SW is for Non-China AP cluster
Bit 5	32	DTV_CHINA	ON = DTV_CHINA will be available (Reserved) OFF = DTV_CHINA will not be available
Bit 4	16	DTV_EU	ON = DTV will be available OFF = DTV will not be available
Bit 3	8	UK_PNP	ON = UK PNP is available OFF = UK PNP is not available
Bit 2	4	VIRGIN_MODE	ON = Virgin Mode (PNP) is available OFF = Virgin Mode (PNP) is not available
Bit 1	2	ACI	ON = ACI is available OFF = ACI is not available
Bit 0 (LSB)	1	ATS	ON = ATS is available OFF = ATS is not available
Total DEC Value			
Byte OP2			
Bit 7 (MSB)	128	1080P	ON = 1080p is available OFF = 1080p is not available
Bit 6	64	LIGHT_SENSOR	ON = Light Sensor is available OFF = Light Sensor is not available
Bit 5	32	AMBILIGHT	ON = Ambilight Feature will be available OFF = Ambilight Feature will not be available
Bit 4	16	BACKLIGHT_DIMMING	ON = Backlight Dimming is available OFF = Backlight Dimming is not available
Bit 3	8	HUE	ON = Hue is available OFF = Hue is not available
Bit 2	4	2D3DCF	ON = 3D Comb Filter is available OFF = 2D Comb Filter is available
Bit 1	2	WSSB	ON = WSS is available OFF = WSS is not available
Bit 0 (LSB)	1	WIDE_SCREEN	ON = TV is 16x9 set OFF = TV is 4x3 set
Total DEC Value			
Byte OP3			
Bit 7 (MSB)	128	CVI2	ON=CVI1 (YPbPr) (For ROW)
Bit 6	64	Reserved	Not Used (Reserved)
Bit 5	32	Reserved	Not Used (Reserved)
Bit 4	16	VCHIP	ON = VChip is available OFF = VChip is not available
Bit 3	8	VIDEO_TEXT	ON = Video-TXT is available OFF = Video-TXT is not available
Bit 2	4	STEREO_DBX	ON = Stereo DBX detection is available (LATAM) OFF = Stereo DBX detection is not available
Bit 1	2	STEREO_NICAM_2CS	ON = Stereo NICAM 2CS detection is available (EU/AP/China) OFF = Stereo NICAM 2CS detection is not available
Bit 0 (LSB)	1	LIP_SYNC	ON = Lip Sync is available OFF = Lip Sync is not available
Total DEC Value			
Byte OP4			
Bit 7 (MSB)	128	HDMI2	ON = HDMI2 is available OFF = HDMI2 is not available
Bit 6	64	HDMI1	ON = HDMI1 is available OFF = HDMI1 is not available
Bit 5	32	VGA	ON = VGA is available OFF = VGA is not available
Bit 4	16	SVHS3	ON = SVHS3 is available OFF = SVHS3 is not available
Bit 3	8	AV3	ON = AV3 is available OFF = AV3 is not available
Bit 2	4	CVI	ON = CVI is available OFF = CVI is not available
Bit 1	2	SVHS2	ON = SVHS2 is available OFF = SVHS2 is not available
Bit 0 (LSB)	1	AV2	ON = AV2 is available OFF = AV2 is not available
Total DEC Value			

Table 8-4 Option codes at bit level (OP5-OP7)

Option Byte & Bit	Dec. Value	Option Name	Description
Byte OP5			
Bit 7 (MSB)	128	NVM_CHECK	ON = NVM (range) checking is available OFF = NVM (range) checking is not available
Bit 6	64	Reserved	Not Used (Reserved)
Bit 5	32	Reserved	Not Used (Reserved)
Bit 4	16	MP_ALIGN	ON = Using multi-point alignment for Gamma & White Point OFF = Using old way for Gamma (pre-defined) & WP alignment
Bit 3	8	SYS_RECVRY	ON = System Recovery is available OFF = System Recovery is not available
Bit 2	4	SL_WIRED	ON = BDS Smart Loader Wired is available OFF = BDS Smart Loader Wired is not available
Bit 1	2	HOTEL	ON = Hotel/BDS is available OFF = Hotel/BDS is not available
Bit 0 (LSB)	1	SS_DEMO	ON = Split Screen Demo is available OFF = Split Screen is not available
Total DEC Value			
Byte OP6			
Bit 7 (MSB)	128	Reserved	Not Used (Reserved)
Bit 6	64	Reserved	Not Used (Reserved)
Bit 5	32	Reserved	Not Used (Reserved)
Bit 4	16	Reserved	Not Used (Reserved)
Bit 3	8	TUNER PROFILE	0 = ATV_EU_PHILIPS UV1318S/AIH-3 1 = ATV_EU_Panasonic EN57K28G3F 2 = DTV_EU_PHILIPS TD1316AF/IHP-2 4 = ATV_AP_PHILIPS UV1316E/AIH-4 5 = ATV_AP_Tuner2 (Reserved) 6 = ATV_CHINA_ALPS TEDE9-286B 7 = ATV_CHINA_Tuner2 (Reserved) 8 = ATV_LATAM_PHILIPS UV1338/AIH-4 9 = ATV_LATAM_Tuner2 (Reserved) 10 = DTV_CHINA_Tuner1 (Reserved) 11 = DTV_CHINA_Tuner2 (Reserved) 12 = Not Used (Reserved) 13 = Not Used (Reserved) 14 = Not Used (Reserved) 15 = Not Used (Reserved)
Bit 2	4		
Bit 1	2		
Bit 0 (LSB)	1		
Total DEC Value			
Byte OP7			
Bit 7 (MSB)	128	Reserved	Not Used (Reserved)
Bit 6	64	Reserved	Not Used (Reserved)
Bit 5	32	Reserved	Not Used (Reserved)
Bit 4	16	CABINET PROFILE	0 = Cabinet_Profile_26_LCD_ME7 1 = Cabinet_Profile_32_LCD_ME7 2 = Cabinet_Profile_37_42_47_LCD_ME7 3 = Cabinet_Profile_42_50_PDP_ME7 4 = Cabinet_Profile_26_LCD_ME5P 5 - 32 = Reserved
Bit 3	8		
Bit 2	4		
Bit 1	2		
Bit 0 (LSB)	1		
Total DEC Value			

9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

Index of this chapter:

9.1 Introduction
9.2 LCD Power Supply
9.3 DC/DC converters
9.4 Front-End
9.5 DVB-T Signal Processing
9.6 Video Processing
9.7 Memory addressing
9.9 Audio Processing
9.10 HDMI
9.11 Abbreviation List
9.12 IC Data Sheets

Notes:

- Only **new** circuits (circuits that are not published recently) are described.
- Figures can deviate slightly from the actual situation, due to different set executions.
- For a good understanding of the following circuit descriptions, please use the Wiring, Block (chapter 6) and Circuit Diagrams (chapter 7). Where necessary, you will find a separate drawing for clarification.

9.1 Introduction

The LC7.x (development name “LC07”) is a new global chassis for the year 2007 (LC7.1 is the analogue range, LC7.2 is the digital range). It is the successor of the LC4.x chassis, and covers a screen size of 26 to 47 inch for LCD and 42 to 50 inch for Plasma sets with a new styling called “ME7”. Some key components are:

- **Audio**: Sound processing is performed by a multi-standard sound processor MSP4450 (item 7411)
- **Video**: Video processing is performed by the Trident video processor SVP CV32-LF (item 7202).

For analogue reception, a standard IF demodulator is used, whereas digital input signals (DVB-T) are processed through a COFDM channel decoder together with an MPEG decoder (integrated on the SSB). A so-called “Reneas” microprocessor performs the control functionality.

Important features of this chassis are:

- **AmbiLight:** LED AmbiLight (where applicable) is introduced as the successor of glass-tube AmbiLight
- **1080p Full HD** (where applicable).

9.1.1 SSB Cell Layout

Description of the functional blocks (top side):

- In the middle, there is the Trident video processor.
- Above it, there is the Reneas micro processor.
- At the right hand top, there is the audio class D amplifier.
- The left part of the SSB contains the digital reception circuit. In the LC4.x, this was a separate module, here it is integrated on the SSB (same MOJO chip set).
- Between the digital reception part and the Trident part, there is the DC/DC conversion circuit.

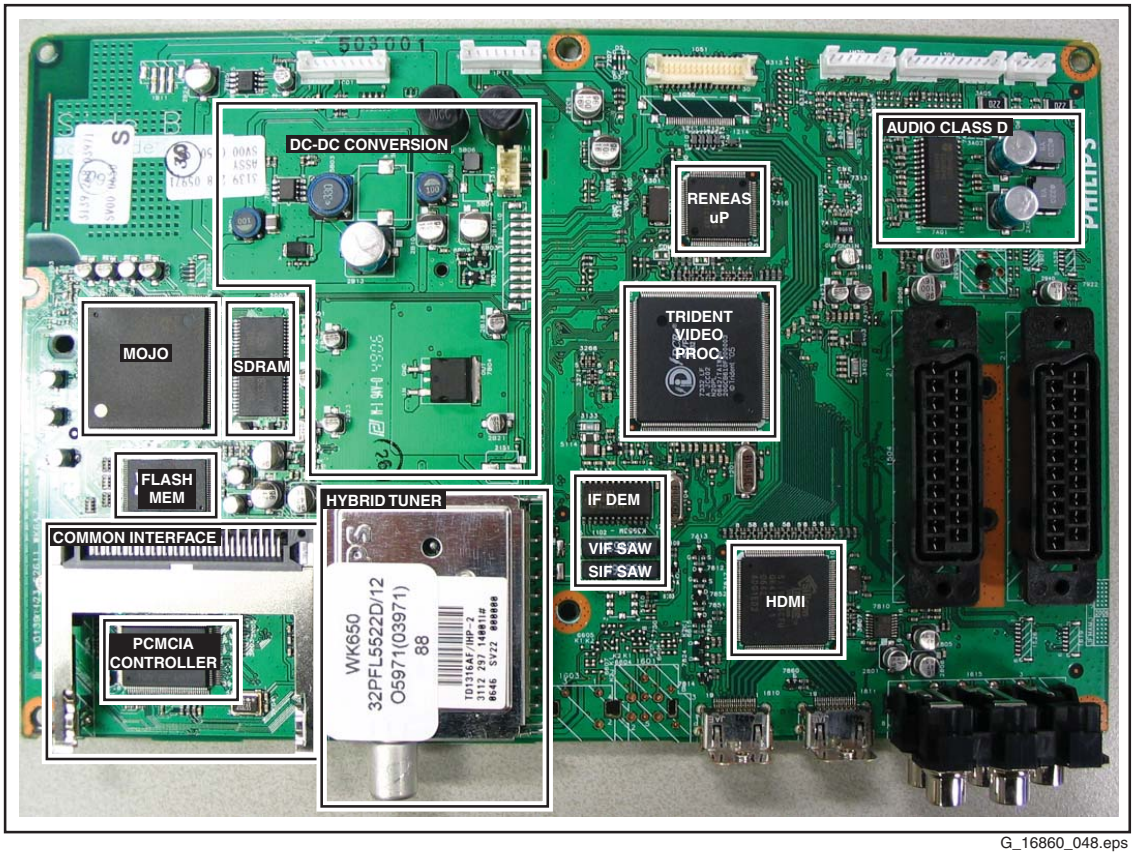

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Figure 9-1 SSB top view

Description of the functional blocks (bottom side):
- The “Flash Mem” chip contains the software of the TV.
- The “Micronas” is the audio demodulator/processor.
- The two SDRAM’s are used for the video processing.
- The right part of the SSB contains the digital reception circuit. This side contains the channel decoder.
- There are two connectors for ComPair:
  – One on the other side of the tuner for I2C communication with the Reneas micro processor.
  – The other one at the digital reception part, for UART communication with the MOJO.

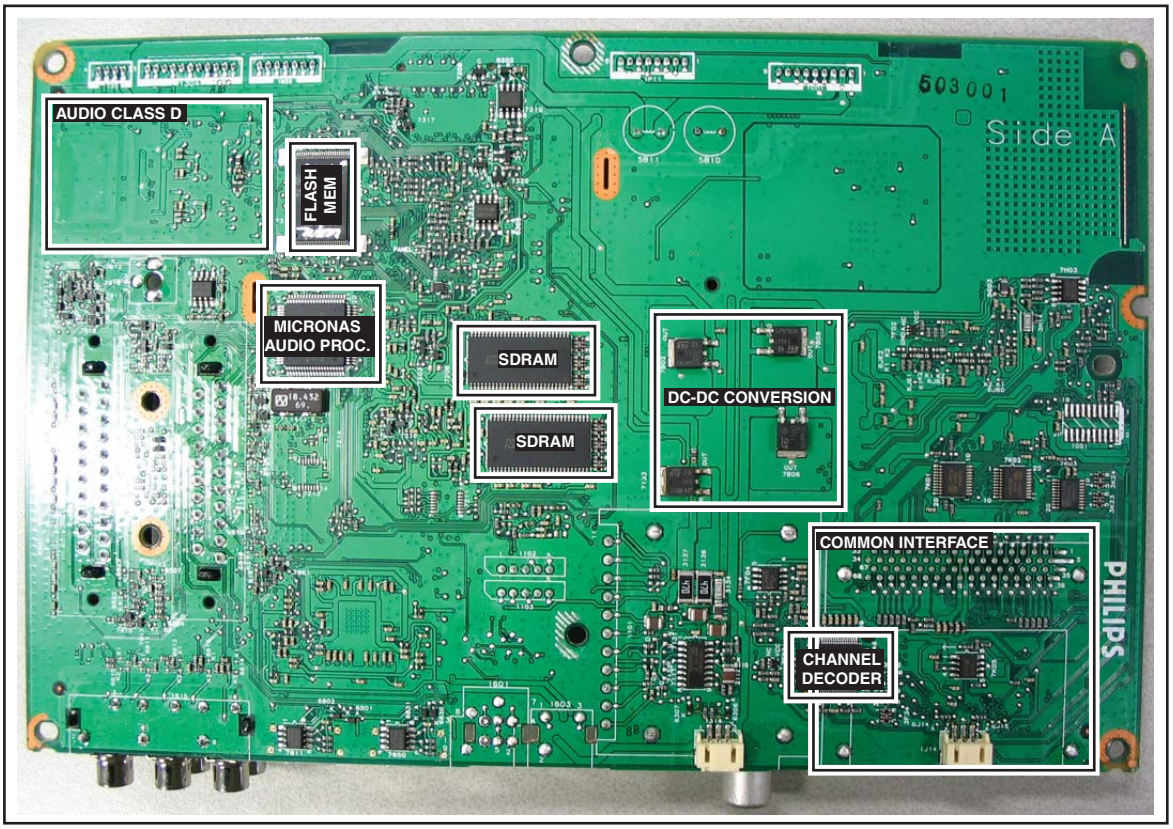

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Figure 9-2 SSB bottom view

9.2 LCD Power Supply

The Power Supply Unit (PSU) in this chassis is a buy-in and is a black-box for Service. When defective, a new panel must be ordered and the defective panel must be returned for repair, unless the main fuse of the unit is broken. Always replace the fuse with one of the correct specifications! This part is commonly available in the regular market.

Some models (37 and 42PFL3312) come with a so-called IPB (Integrated Power Board) power supply. This power supply also incorporates the backlight inverters.

Three different PSU can be used in this chassis:
- 26 and 32 inch sets use a “Delta” PSU
- 37 and 42 inch sets use a “PPS” (Philips Power Solutions) PSU, except IPB PSUs; they come from “Delta”.
- 47 inch sets use a “Delta” PSU.

Figure “Overview of PSU connectivity” shows the connectivity of the Power Supply Unit with the other panels in the set.

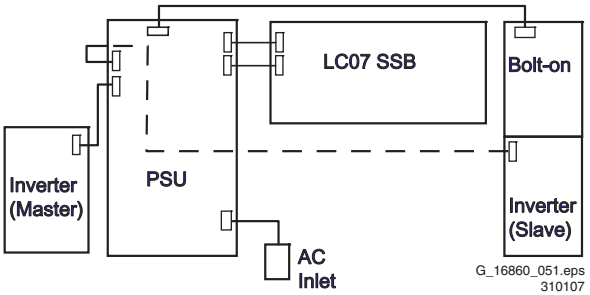

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Figure 9-3 Overview of PSU connectivity (for non-IPB sets)

All Power Supply Units deliver the following voltages to the chassis:
- +24 V to the inverters
- +12 V to SSB
- +12 V and -12 V to Audio Supply
- 12 V to Bolt-on Supply (where applicable)
- +5.2 V Standby voltage.

9.3 DC/DC converters

A switch generates the +5.2 V (+5V_SW) from the +5.2 V (+5V_STANDBY) supply voltage. For LCD sets, this switch is mounted on-board the SSB. For PDP sets, this switch is mounted on the Power Supply Panel. This results in the +5V_STANDBY (and +5V_SW for PDP sets) voltage(s), coming from the Power Supply Unit, is (are) used as input for the on-board DC/DC converters.
They deliver the following voltages to the board:

- +3.3 V (+3V3_STBY)
- +5.2 V (+5V_SW) (only for LCD sets)
- +1.8 V (+1V8S_SW)
- +34 V (+VTUN)
- +3.3 V (+3V3_SW)
- +3.3 V (+3V3_MOJO)
- +1.2 V (+1V2_MOJO)

An overview can be found in figure “DC-DC converter block diagram”.

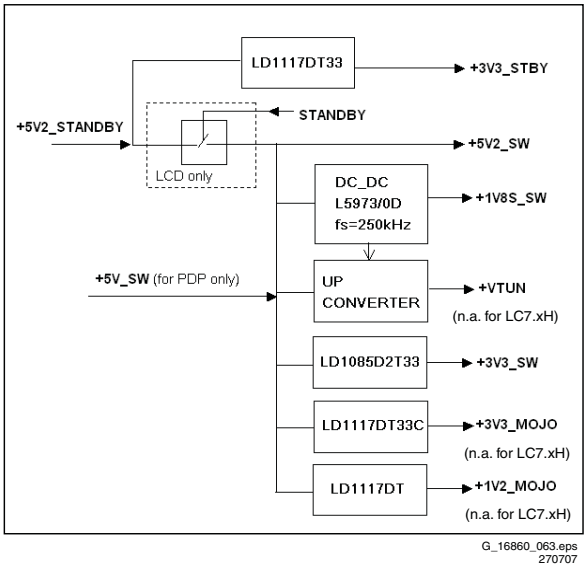


Figure 9-4 DC-DC converter block diagram

The +5 V switch, needed for the switch voltages, is for LCD sets physically mounted on the SSB, whereas for the PDP sets it is physically mounted on the PSU board.

9.4 Front-End

This chassis uses different tuners depending on the region. An overview of region-dependency can be found in table “Tuner diversity”.

Table 9-1 Tuner diversity

Region	Tuner	Type
Europe	TD1316AF	Hybrid
	UV1318S	analogue
AP	UV1316E	analogue
China	TEDE9	analogue
Latam	UV1338	analogue

The TD1316AF hybrid tuner used, is capable of receiving both analogue and digital (DVB-T) signals. For the application in this chassis see figure “Tuner IF diagram”.

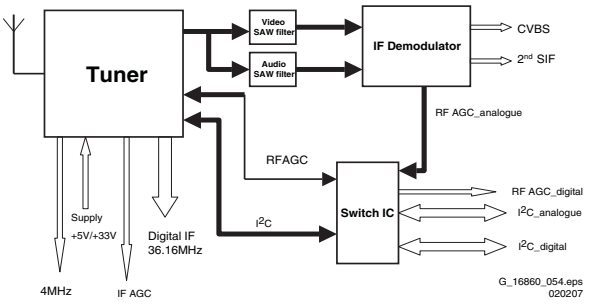


Figure 9-5 Tuner IF diagram

While receiving analogue signals, the signal coming from the tuner is fed to the IF demodulator (through the SAW filters) and then passed to the Trident Video Processor.
While receiving digital signals, the signal coming from the tuner is fed to the channel decoder, to the MPEG decoder and then to the Trident Video Processor.

9.4.1 Video IF Amplifier

The IF-filter is integrated in a SAW (Surface Acoustic Wave) filter. One for filtering IF-video (item 1102) and one for IF-audio (item 1103). The type of these filters depends on the standard to be received (region-dependency). Some filters can be switched to another standard, what makes them suitable for applications in multi-standard platforms. An overview of the SAW filter diversity can be found in table “SAW filter diversity”.

Table 9-2 SAW filter diversity

SAW filter	Switching Y/N	Region	Video/Audio
OFWK3953M	No	Europe	Video
OFWK9656M	Yes	Europe	Audio
OFWK7265L	Yes	AP	Video
OFWK9361L	No	AP	Sound
OFWK3956L	No	China	Video
OFWK3955L	No	China	Video
OFWK9352L	No	China	Audio
OFWM1967L	No	LATAM	Video/Audio

Switching is done by the microcontroller via SAW_SW. In table “SAW filter switching” is explained how to address the different system standards.

Table 9-3 SAW filter switching

Region	SAW_SW	System
Europe	1	L’
	0	other systems
AP	1	B/G, D/K, I
	0	M/N
China	1	B/G, D/K, I
	0	M/N
LATAM	n.a.	M/N

The hybrid tuner TDA1316AF, used in Europe sets, needs to be switched between digital and analogue mode. This is done by the microcontroller via DVB_SW. Refer to table “Hybrid tuner digital/analogue switching” for details.

Table 9-4 Hybrid tuner digital/analogue switching

Region	DVB_SW	Mode
Europe	1	analogue reception
	0	Digital reception

The pin assignment of all analogue tuners is equal and can be found in table “Pin assignment analogue tuners”.

Table 9-5 Pin assignment analogue tuners

Pin number	Description	DC voltage (V)
1	RF AGC voltage	3.3 - 4.5 (weak or no signal) < 3.3 (strong signal)
2	n.c.	
3	I^2C-bus address select	0
4	SCL	0 to 3.3
5	SDA	0 to 3.3
6	n.c.	
7	supply voltage	5 ±0.25
8	n.c.	
9	tuning supply voltage	33
10	n.c.	
11	TV IF output	

The pin assignment of the hybrid tuner can be found in table “Pin assignment hybrid tuner”.

Table 9-6 Pin assignment hybrid tuner

Pin number	Description	DC voltage (V)
1	n.c.	
2	RF AGC voltage	3.3 - 4.5 (weak or no signal) < 3.3 (strong signal)
3	I^2C-bus address select	0
4	SCL	0 to 3.3
5	SDA	0 to 3.3
6	4 MHz reference output	
7	supply voltage	5 ±0.25
8	broadband IF output	
9	IF AGC voltage	0 to 3
10	narrowband IF output	
11	narrowband IF output	

9.4.2 Automatic Gain Control

During analogue reception, the hybrid tuner receives an external AGC voltage, coming from the demodulator to perform automatic gain control. During digital reception, no external AGC voltage is used but the tuners internal AGC loop is used.

9.5 DVB-T Signal Processing

The DVB-T cell on the SSB is built around the “MOJO” MPEG decoder PNX8314HS (item 7G00) and receives the signal from the COFDM Channel Decoder TDA10046 (item 7F01). The (hybrid) tuner TD1316AF (item 1101) supports digital (DVB-T) reception and transports the signal via the VIM_IBO and VIP_IBO lines. The digital data stream exits the DVB-T cell when it is fed to the Trident SVP CX32 Video Processor (item 7202). A Common Interface (CI) slot allows reception of encoded signals when used with a Conditional Access Module (CAM) in combination with a smart card. See figure “Block diagram DVB-T reception” for details.

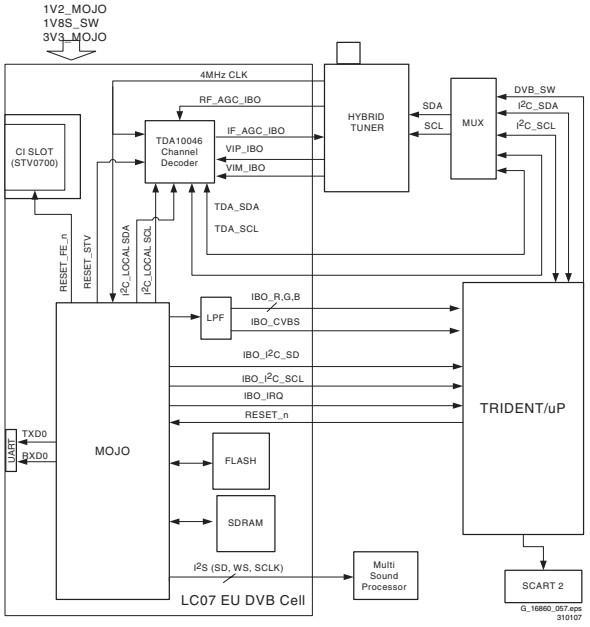


Figure 9-6 Block diagram DVB-T reception

9.5.1 Common Interface (CI)

Introduction

The digital sets of this chassis are provided with a special slot called Common Interface (CI). Together with a Conditional Access Module (CAM) and a smart card, it is possible to receive scrambled TV programs. This means that it is not necessary to have a separate Set Top Box to receive digital cable SDTV and HDTV programs (however this still is possible).

The removable smart card, distributed by cable companies, allows you to tune digital and high definition scrambled or encrypted cable channels through the cable antenna. The smart card is also required to receive premium digital TV channels and services (where available) through the cable. A smart card functionality includes conditional access and copy protection.

Implementation

1. The receiver receives the digital data stream.
2. The data flows into the Conditional Access Module, which contains the content provider's unscrambling algorithms.
3. This module verifies the existence of a smart card that contains the subscriber's authorization code.
4. If the authorization code is accepted, the CAM unscrambles the data and returns the data to the receiver (if the code is not accepted, the data remains scrambled, restricting access).
5. The receiver then decodes the data and outputs it for viewing.

9.5.2 Supply

The internal voltages that are used are:
- 5 V (+5V_SW)
- 3.3 V (+3V3_MOJO)
- 1.2 V (+1V2_MOJO)
- 1.8 V (+1V8S_SW).

During start-up, it is important that the +1V8S_SW line comes up earlier than the +3V3_MOJO line. In order to implement this, a delay circuit is added which is shown in figure “Delay circuitry”.

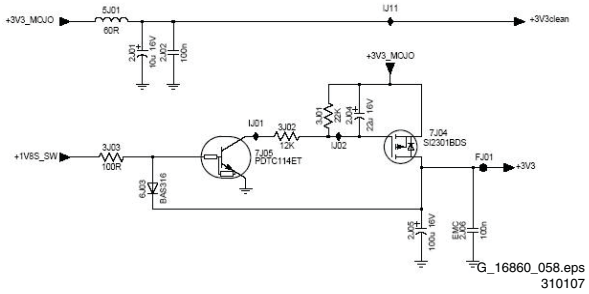


Figure 9-7 Delay circuitry

Item 7J05 switches the MOSFET “on” and “off” (item 7J04). The diode (item 6J03) performs a short-circuit protection for the +3V3 output stage.

9.6 Video Processing

The video processing is completely handled by the Trident SVP CX32 video processor which features:
- CVBS-input for analogue signals.
- RGB-input for digital (DVB-T) signals.
- Motion and “edge-adaptive” de-interlacing.
- Integrated ADC.
- Built-in 8-bit LVDS transmitter.
- Colour stretch.
- Skin colour enhancement.
- 3D Digital Comb Video Decoder.
- Interlaced and Progressive Scan refresh.
- TeleText decoding.
- OSD and VBI/Closed Caption.

9.6.1 Video Application

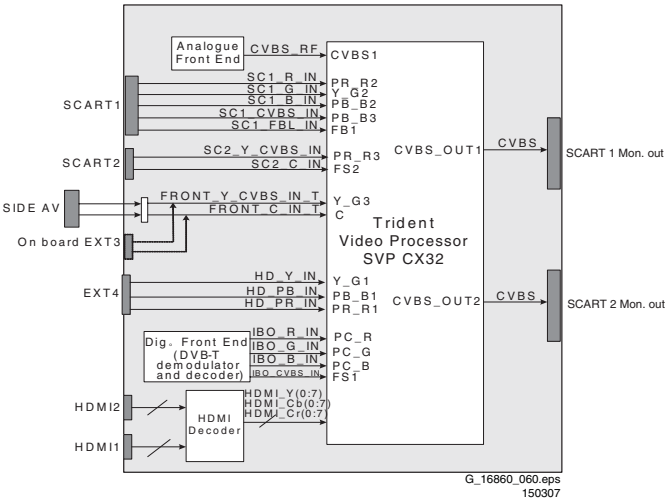


Figure 9-8 Block diagram video processing

“Block diagram video processing” shows the input and output signals to and from the Trident Video Processor in EU applications.

During analogue reception, a CVBS signal coming from the analogue front-end is fed to the video processor via pin CVBS1. During digital reception, the video signal coming from the MPEG decoder (MOJO) is fed to the video processor via pins FS1, PC_B, PC_G and PC_R.

The video processor also interfaces the SCART1 & 2 input, side AV, EXT4 (HD where applicable) and HDMI1 & 2 input. Through the SCART1 & 2 connectors, a monitor output is foreseen.

9.7 Memory addressing

Figure “Memory block diagram” shows the interconnection between the microprocessor, the FLASH memory, the Trident Video Processor and the SDRAM.

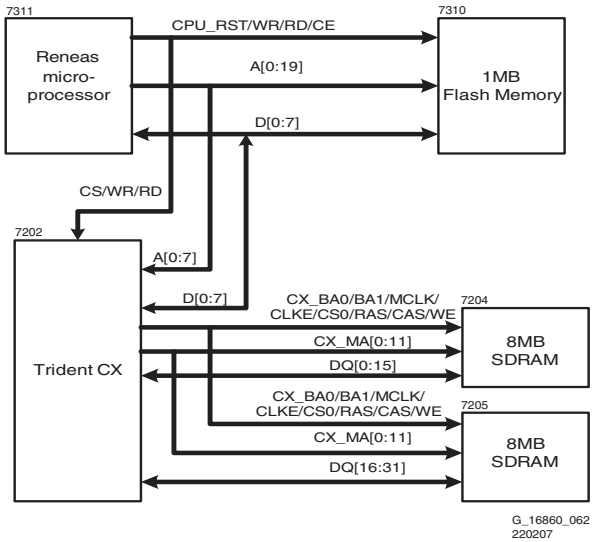


Figure 9-9 Memory block diagram

Control signals CPU_RST, WR, RD and CE, address lines A[0:19] and data lines D[0:7] are used for transferring data between the microprocessor (item 7311) and the flash memory (item 7310). Control signals CS, WR and RD, address lines A[0:7] and data lines D[0:7] are used for transferring data between the Trident Video Processor (item 7202) and the microprocessor (item 7311). Control signals CX_BA0, CX_BA1, CX_MCLK, CX_CLKE, CX_CS0, CX_RAS, CX_CAS and CX_WE, address lines CX_MA[0:11] and data lines DQ[0:15] are used for transferring data between the Trident Video Processor and the SDRAM ICs (items 7204 and 7205).

9.8 1080p Panel (if present)

In the LC7.x chassis with 1080p full-HD LCD panel (e.g. the 42PFL7662D), an extra module called “1080p panel” is needed, because the main video processor supports only “single LVDS”, while the full HD LCD panel requires “dual LVDS”.
On this panel, a “Genesis” scaler IC performs the processing. The input is a “single LVDS” signal from the Trident video processor, while the output is a “dual LVDS” signal for the HD display.
Communication is done via I2C, and controlled by the Reneas microprocessor on the SSB.

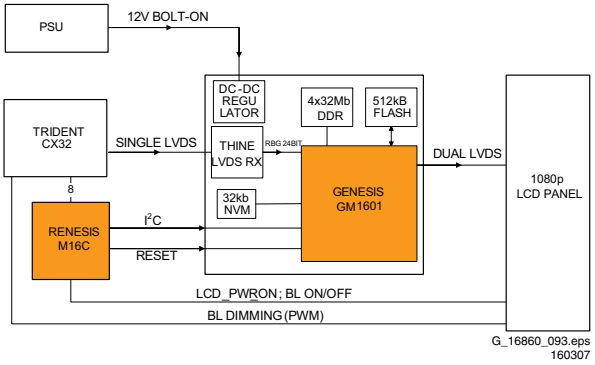


Figure 9-10 1080p block diagram

Some features of the board are:
- Single LBVDS input, dual LVDS output.
- LVDS output enable/disable.
- Hue, saturation, and flesh tone adjustment (= skin tone).
- Brightness and contrast adjustment.
- Motion adaptive de-interlacer (in 1080i).
- Supported SD formats:
  – HDMI and YPbPr: 480i&p, 576i&p (50 and 60 Hz).
- Supported HD 720p formats:
  – HDMI and YPbPr: 720p (50 and 60 Hz).
- Supported HD 1080i formats:
  – HDMI: 1080i (50 and 60 Hz).
  – YPbPr: 1080i (50, 59.94, and 60 Hz).
- Supported HD 1080p formats:
  – HDMI and YPbPr: 1080p (25 and 30 Hz).
- Upgradable software (via UART). Please refer to chapter 5 and/or ComPair.

9.9 Audio Processing

The audio decoding is done entirely via the Multistandard Sound Processor (MSP) 4450P (item 7411).
This processor covers the processing of both analogue and (NICAM) digital input signals by processing the (analogue) IF signal-in to processed (analogue) AF-out (baseband audio). An internal 40 ms (stereo) audio delay line (LIP SYNC) is foreseen and therefore no external delay line is necessary.

All internal clock signals are derived from an external 18.432 MHz oscillator, which, in NICAM or I²S-mode, on its turn is locked to the corresponding source.

The following functionality is included:
- Automatic Standard Detection (ASD) automatically detects the actual broadcasted TV standard
- Automatic Sound Select (ASS) automatically switches (without any I²C-bus action) between mono/stereo/ bilingual mode when the broadcast mode changes.

9.9.1 Audio Application

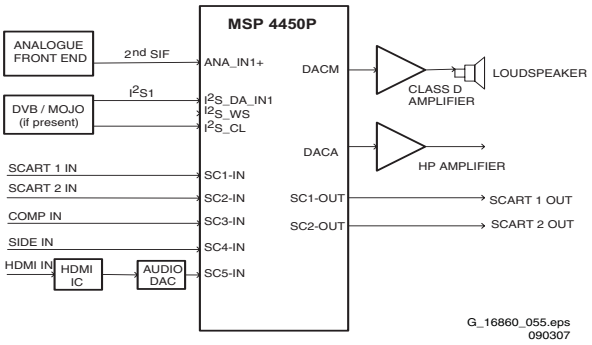


Figure 9-11 Block diagram audio processing - EU application

In EU applications, the MSP features:
- Sound IF input for signals coming from the analogue front-end
- Three I²S-inputs for signals (“DATA”, “CLK” and “WS”) coming from the MOJO in case of digital reception
- Five analogue inputs: for EXT1 to EXT4 and HDMI
- Loudspeaker output path
- Headphone output path
- SCART-1 output path (RF)
- SCART-2 output path (WYSIWYG = monitor).

Digital audio signals coming from HDMI sources are fed to a digital-to-analogue converter and then fed to the MSP.
In case of reception of digital TV signals, digital audio signals coming from the MOJO are directly fed to the MSP via the I2S_DA_IN1, I2S_WS1 and I2S_CL1 lines. This ensures a “true digital path”.

The microprocessor (item 7311) controls the audio part with the following control lines:
- MUTEn: used to mute the Class D amplifiers
- ANTI_PLOP: used to detect any DC failure in the Class D amplifiers
- DC_PROT: used to detect any DC failure in the Class D amplifiers.

9.9.2 Audio Amplifier

The audio amplifier is an integrated class-D amplifier (TDA8932T, item 7A01). It combines a good performance with a high efficiency, resulting in a big reduction in heat generation.

Principle

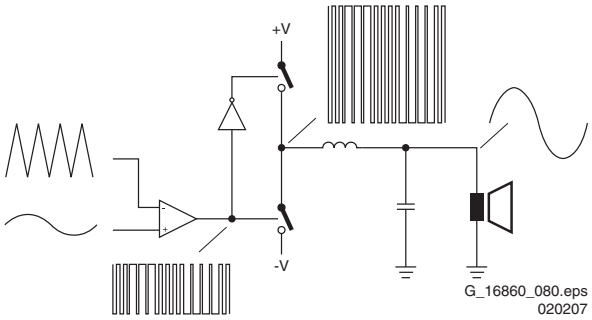


Figure 9-12 Principle Class-D Amplifier

The Class D amplifier works by varying the duty cycle of a Pulse Width Modulated (PWM) signal.
By comparing the input voltage to a triangle wave, the amplifier increases duty cycle to increase output voltage, and decreases duty cycle to decrease output voltage.
The output transistors of a Class D amplifier switch from 'full off' to 'full on' (saturated) and then back again, spending very little time in the linear region in between. Therefore, very little power is lost to heat. If the transistors have a low 'on' resistance (RDS(ON)), little voltage is dropped across them, further reducing losses.
A Low Pass Filter at the output passes only the average of the output wave, which is an amplified version of the input signal. In order to keep the distortion low, negative feedback is applied.

The **advantage** of Class D is increased efficiency (= less heat dissipation). Class D amplifiers can drive the same output power as a Class AB amplifier using less supply current.
The **disadvantag**e is the large output filter. The main reason for this filter is that the switching waveform results in maximum current flow. This causes more loss in the load, which causes lower efficiency. An LC filter with a cut-off frequency less than the Class D switching frequency, allows the switching current to flow through the filter instead of the load, thus reducing the overall loss and increasing the efficiency.

DC-protection
A DC-detection circuit is foreseen to protect the speakers. It is built around three transistors (items 7A05 to 7A07) and generates a protection signal (DC_PROT) to the microprocessor in case of a DC failure in the Class D amplifiers.

9.10 HDMI

9.10.1 Introduction

Note: Text below is an excerpt from the ”HDMI Specification” that is issued by the HDMI founders (see *http://www.hdmi.org*).

The High-Definition Multimedia Interface is developed for transmitting digital signals from audiovisual sources to television sets, projectors and other video displays.
HDMI can carry high quality multi-channel audio data and can carry all standard and high-definition consumer electronics video formats. Content protection technology is available. HDMI can also carry control and status information in both directions.

HDMI is backward compatible with DVI (1.0). Compared with DVI, HDMI offers extra:
- YUV 4:4:4 (3 x 8-bit) or 4:2:2 (up to 2 x 12-bit), where DVI offers only RGB 4:4:4 (3 x 8 bit).
- Digital audio in CD quality (16-bit, 32/44.1/48 kHz), higher quality available (8 channels, 192 kHz).
- Remote control via CEC bus (Consumer Electronics Control): allows user to control all HDMI devices with the TV's remote control and menus.
- Smaller connector (SCART successor).
- Less cables: e.g. from 10 audio/9 video cables to 3 HDMI cables.

9.10.2 Implementation

The IC used is the Sil 9025 (Silicon Image) third generation HDMI receiver (item 7817 on the SSB) with following features:
- Dual HDMI input connector.
- Two EEPROMS to support EDID.
- HDMI audio.
- I^2S output to DACs which operating freq. of 32 to 192 kHz.
- Integrated HDCP decryption engine.
- Built-in pre-programmed HDCP keys for copy protection.
- Colour space conversion RGB to YCbCr.
- “Hot Plug Reset” signal.

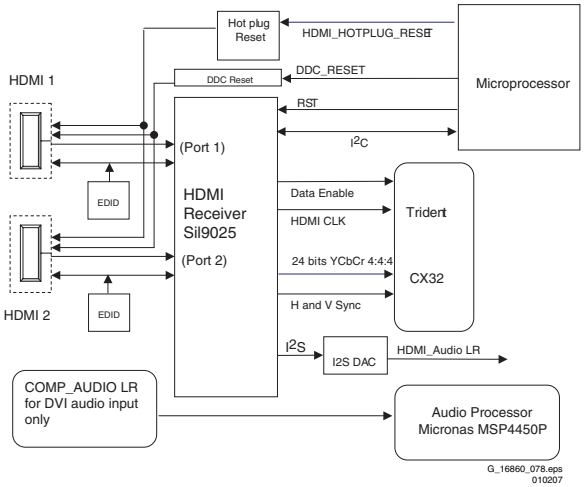


Figure 9-13 HDMI implementation

HDMI connectors 1 and 2 are connected to resp. ports 1 and 2 of the HDMI receiver. The ports cannot be activated at the same moment. Switching is controlled by software.
“Hot Plug Reset” and “DDC Reset” are controlled by the microprocessor.

The HDMI receiver will convert all RGB or YCbCr 4:2:2 signals to 24-bit YCbCr 4:4:4. When it receives a YCbCr 4:4:4 signal it will just pass the signal directly to the Trident Video Processor.

9.11 Abbreviation List

1080i	1080 visible lines, interlaced
1080p	1080 visible lines, progressive scan
2CS	2 Carrier Sound
2DNR	Spatial (2D) Noise Reduction
3DNR	Temporal (3D) Noise Reduction
480i	480 visible lines, interlaced
480p	480 visible lines, progressive scan
AARA	Automatic Aspect Ratio Adaptation: algorithm that adapts aspect ratio to remove horizontal black bars; keeping up the original aspect ratio
ACI	Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page
ADC	analogue to Digital Converter
AFC	Automatic Frequency Control: control signal used to tune to the correct frequency
AGC	Automatic Gain Control: algorithm that controls the video input of the feature box
AM	Amplitude Modulation
AUO	Acer Unipack Optronics
AP	Asia Pacific
AR	Aspect Ratio: 4 by 3 or 16 by 9
ASD	Automatic Standard Detection
AV	Audio Video
B/G	Monochrome TV system. Sound carrier distance is 5.5 MHz
BTSC	Broadcast Television System Committee
CAM	Conditional Access Module
CBA	Circuit Board Assembly (or PWB)
CEC	Consumer Electronics Control bus; remote control bus on HDMI connections
CI	Common Interface; E.g PCMCIA slot for a CAM in a set top box
CL	Constant Level: audio output to connect with an external amplifier
CLUT	Colour Look Up Table
ComPair	Computer aided rePair
COFDM	Coded Orthogonal Frequency Division Multiplexing; A multiplexing technique that distributes the data to be transmitted over many carriers
CSM	Customer Service Mode
CVBS	Composite Video Blanking and Synchronisation
CVBS-MON	CVBS monitor signal
CVBS-TER-OUT	CVBS terrestrial out
CVI	Component Video Input
DAC	Digital to analogue Converter
DBE	Dynamic Bass Enhancement: extra low frequency amplification
DDC	Display Data Channel; is a part of the "Plug and Play" feature
DFU	Directions For Use: owner's manual
DNR	Dynamic Noise Reduction
DRAM	Dynamic RAM
DSP	Digital Signal Processing
DST	Dealer Service Tool: special (European) remote control designed for service technicians
DTS	Digital Theatre Sound
DVB(T)	Digital Video Broadcast; An MPEG2 based standard for transmitting digital audio and video. T= Terrestrial
DVD	Digital Versatile Disc
DVI	Digital Visual Interface
DW	Double Window
ED	Enhanced Definition: 480p, 576p
EDID	Extended Display Identification Data (VESA standard)
EEPROM	Electrically Erasable and Programmable Read Only Memory
EU	EUrope
EXT	EXTernal (source), entering the set by SCART or by cinches (jacks)
FBL	Fast Blanking: DC signal accompanying RGB signals
FBL-TXT	Fast Blanking Teletext
FLASH	FLASH memory
FM	Field Memory / Frequency Modulation
FMR	FM Radio
FRC	Frame Rate Converter
FTV	Flat TeleVision
H	H_sync to the module
HD	High Definition: 720p, 1080i, 1080p
HDCP	High-bandwidth Digital Content Protection; A "key" encoded into the HDMI/DVI signal that prevents video data piracy. If a source is HDCP coded and connected via HDMI/DVI without the proper HDCP decoding, the picture is put into a "snow vision" mode or changed to a low resolution. For normal content distribution, the source and the display device must be enabled for HDCP "software key" decoding
HDMI	High Definition Multimedia Interface, digital audio and video interface
HP	Head Phone
I	Monochrome TV system. Sound carrier distance is 6.0 MHz
I2C	Integrated IC bus
I2S	Integrated IC Sound bus
IBO(Z)	Intelligent Bolt On module. Z= Zapper; module for DVB reception.
IC	Integrated Circuit
IF	Intermediate Frequency
IR	Infra Red
IRQ	Interrupt ReQuest
Last Status	The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according the customers wishes
LATAM	LATin AMerica
LC07	Philips chassis name for LCD TV 2007 project
LCD	Liquid Crystal Display
LED	Light Emitting Diode
L/L'	Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I
LPL	LG Philips LCD
LS	Loud Speaker
LVDS	Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication.
M/N	Monochrome TV system. Sound carrier distance is 4.5 MHz
MOSFET	Metal Oxide Semiconductor Field Effect Transistor
MPEG	Motion Pictures Experts Group
MSP	Multi-standard Sound Processor: ITT sound decoder
MUTE	MUTE Line
NAFTA	North American Free Trade Association: Trade agreement between Canada, USA and Mexico
NC	Not Connected

NICAM	Near Instantaneous Compounded Audio Multiplexing. This is a digital sound system, used mainly in Europe.
NTSC	National Television Standard Committee. Colour system used mainly in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air)
NVM	Non Volatile Memory: IC containing TV related data (for example, options)
O/C	Open Circuit
ON/OFF LED	On/Off control signal for the LED
OAD	Over the Air Download
OSD	On Screen Display
PAL	Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz)
PC	Personal Computer
PCB	Printed Circuit Board (or PWB)
PDP	Plasma Display Panel
PIG	Picture In Graphic
PIP	Picture In Picture
PLL	Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency
PSU	Power Supply Unit
PWB	Printed Wiring Board (or PCB)
RAM	Random Access Memory
RC	Remote Control transmitter
RC5 (6)	Remote Control system 5 (6), the signal from the remote control receiver
RF	Radio Frequency
RGB	Red, Green, and Blue. The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced.
RGBHV	Red, Green, Blue, Horizontal sync, and Vertical sync
ROM	Read Only Memory
SAM	Service Alignment Mode
SC	SandCastle: two-level pulse derived from sync signals
SC1-OUT	SCART output of the MSP audio IC
SC2-OUT	SCART output of the MSP audio IC
S/C	Short Circuit
SCL	Clock signal on I2C bus
SD	Standard Definition: 480i, 576i
SDA	Data signal on I2C bus
SDI	Samsung Display Industry
SDM	Service Default Mode
SDRAM	Synchronous DRAM
SECAM	SEequence Couleur Avec Memoire. Colour system used mainly in France and Eastern Europe. Colour carriers = 4.406250 MHz and 4.250000 MHz
SIF	Sound Intermediate Frequency
SMPS	Switch Mode Power Supply
SND	SouND
SOPS	Self Oscillating Power Supply
S/PDIF	Sony Philips Digital InterFace
SRAM	Static RAM
SSB	Small Signal Board
STBY	Stand-by
SVHS	Super Video Home System
SW	Sub Woofer / SoftWare / Switch
THD	Total Harmonic Distortion
TXT	TeleteXT
uP	Microprocessor
VL	Variable Level out: processed audio output toward external amplifier
VCR	Video Cassette Recorder
VGA	Video Graphics Array
WD	Watch Dog
WYSIWYR	What You See Is What You Record: record selection that follows main picture and sound
XTAL	Quartz crystal
YPbPr	Component video (Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV)
Y/C	Video related signals: Y consists of luminance signal, blanking level and sync; C consists of colour signal.
Y-OUT	Luminance-signal
YUV	Baseband component video (Y= Luminance, U/V= Colour difference signals)

9.12 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

9.12.1 Diagram B03B, Type TDA10046AHT(IC7F01), COFDM Channel Decoder

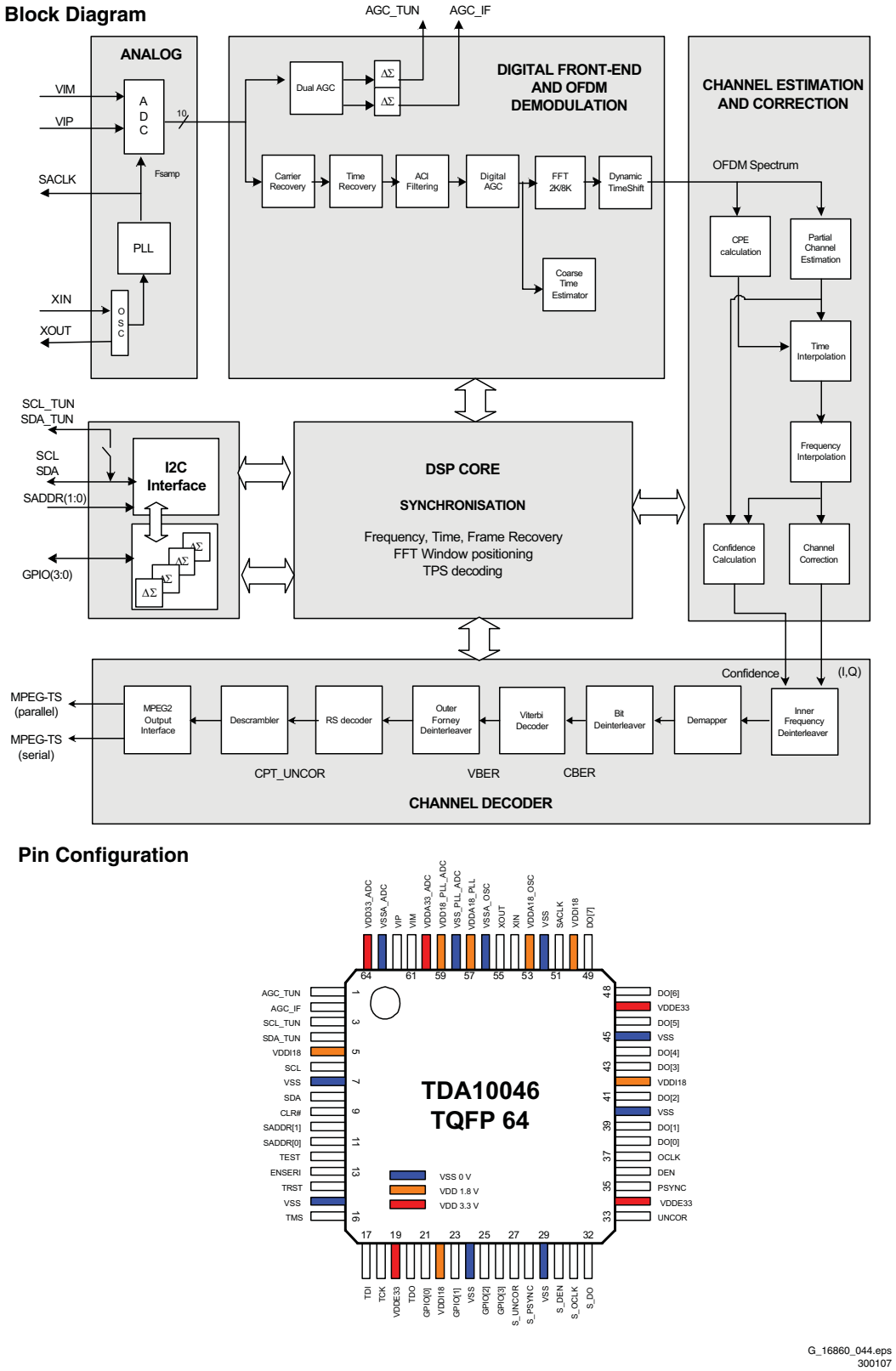
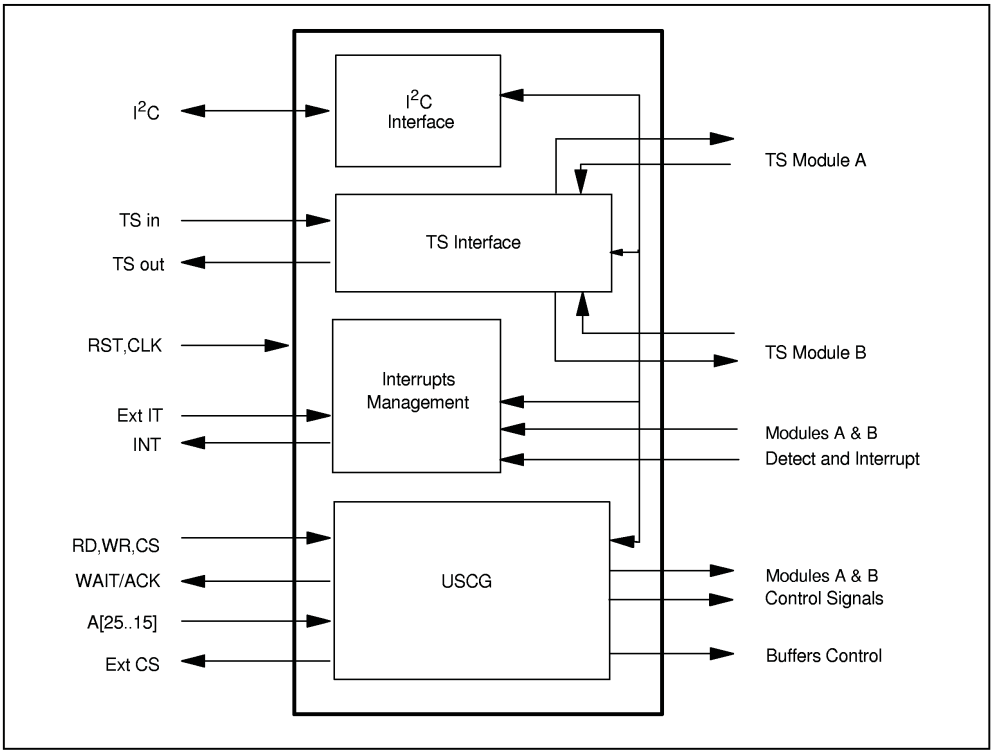


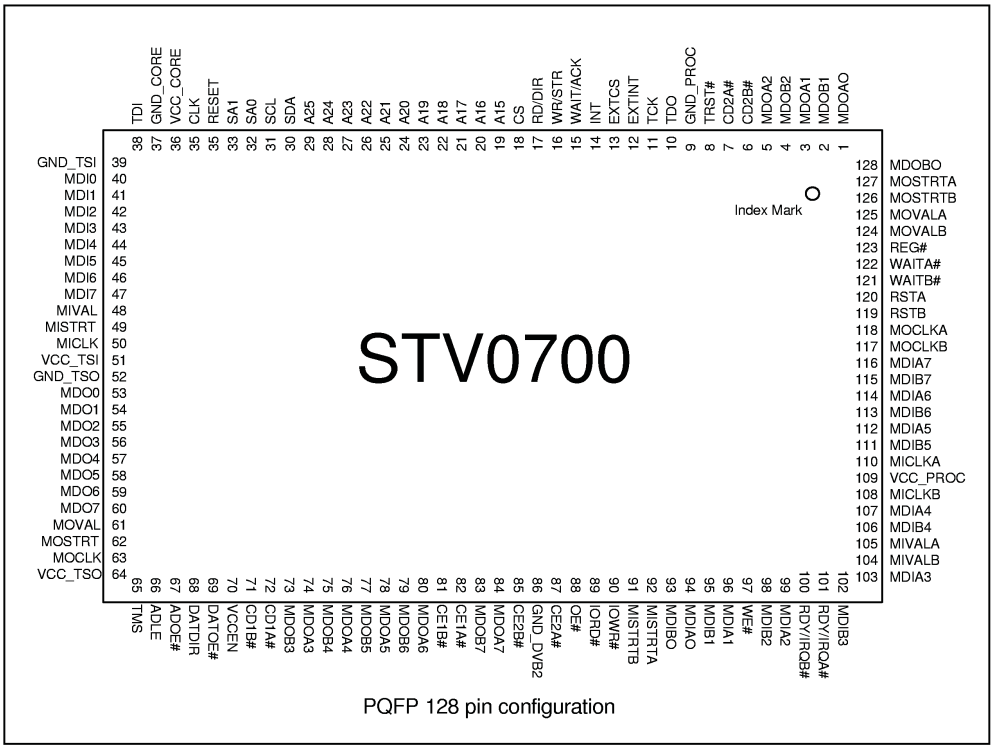
Figure 9-14 Internal block diagram and pin configuration

9.12.2 Diagram B03C, Type STV0700 (IC7K00), PCMCIA Controller

Block Diagram



Pin Configuration

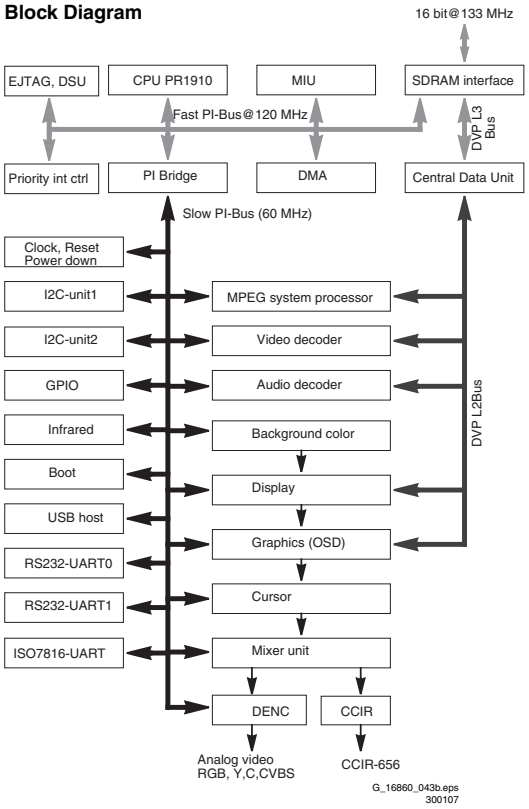


PQFP 128 pin configuration

H_16861_001.eps
060307

Figure 9-15 Internal block diagram and pin configuration

9.12.3 Diagram B03D, Type PNX8314HS (IC7G00), DVB-MOJO



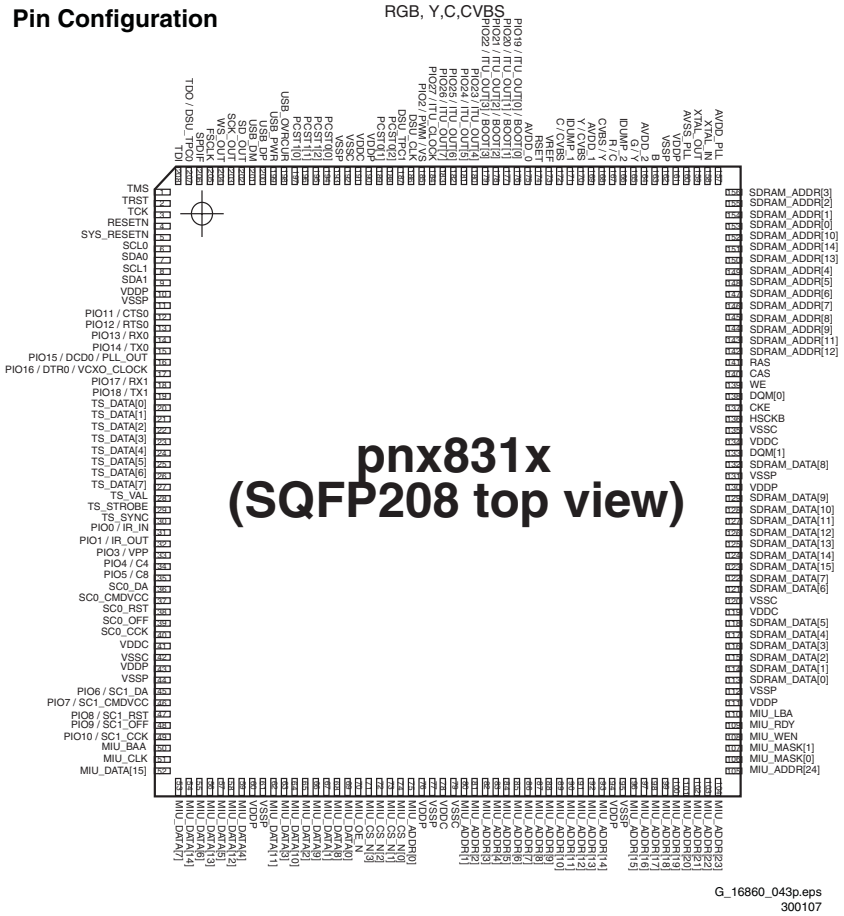
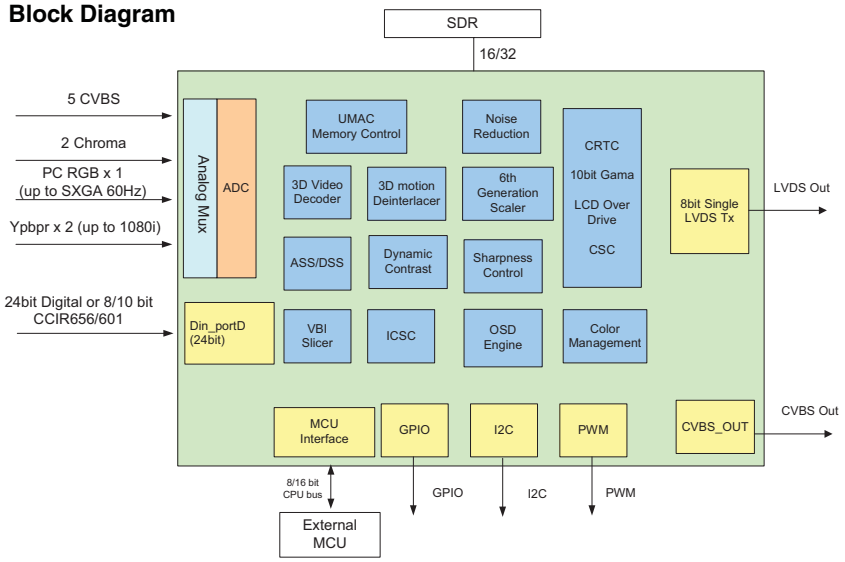


Figure 9-16 Internal block diagram and pin configuration

9.12.4 Diagram B04B, Type SVP CX32 (IC7202), Trident Video processor

Block Diagram



Pin Configuration

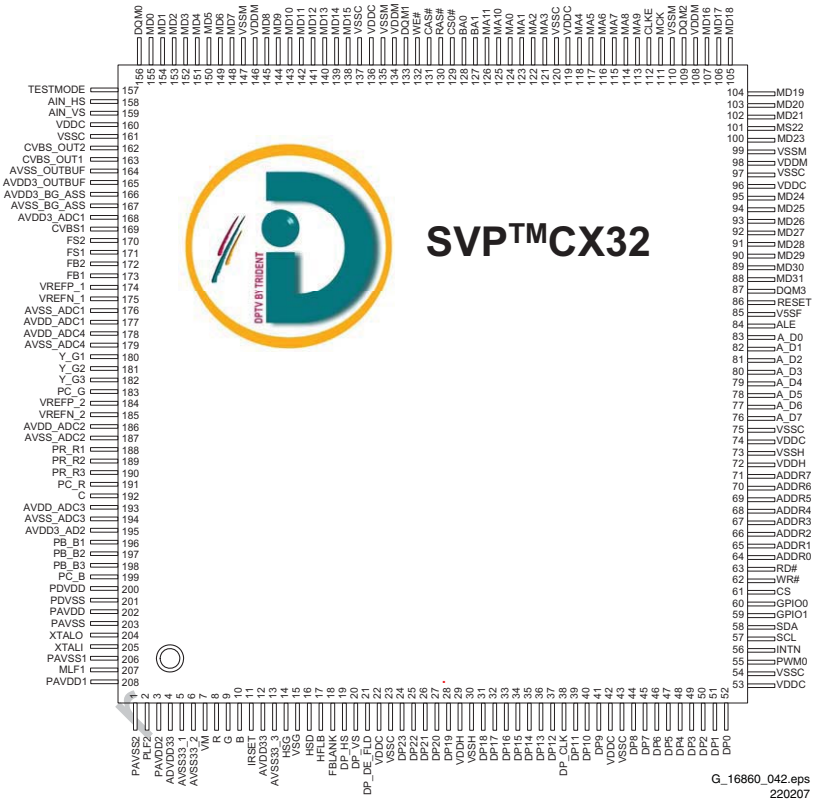


Figure 9-17 Internal block diagram and pin configuration

9.12.5 Diagram B04C, Type MSP4450P (IC7411), Micronas Sound Processor

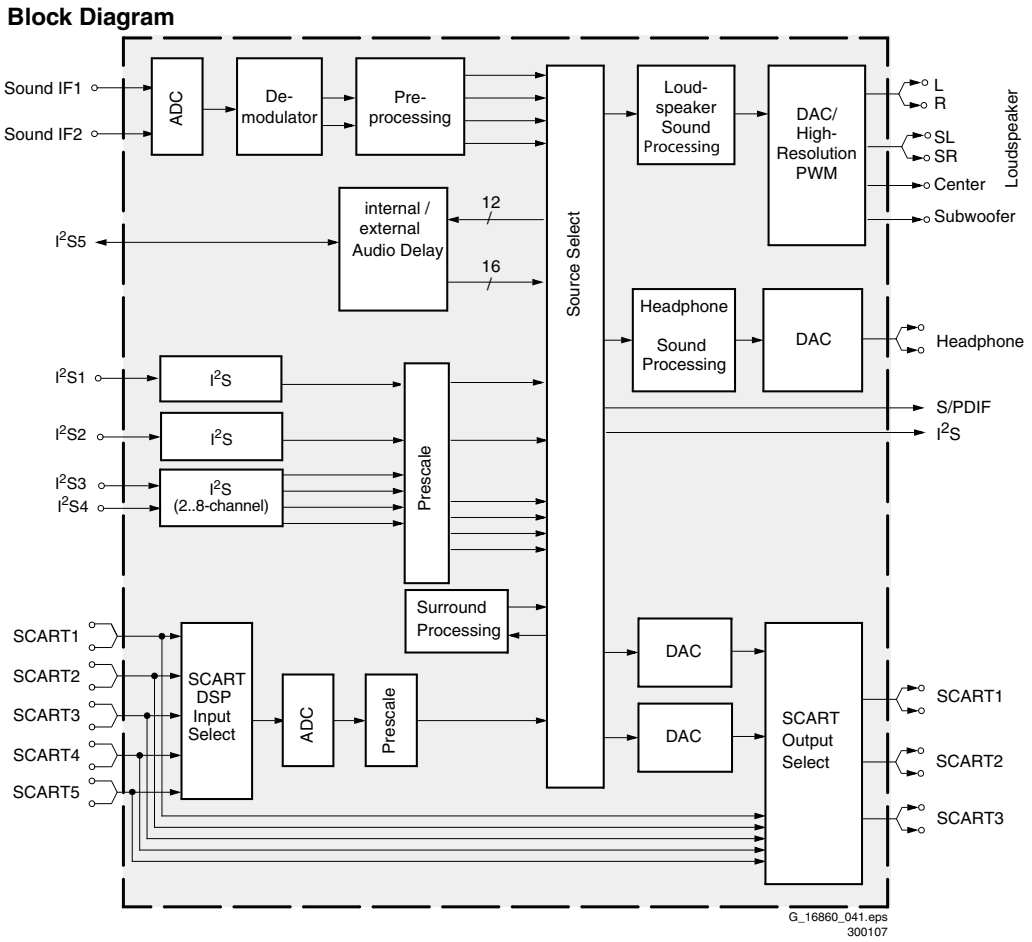
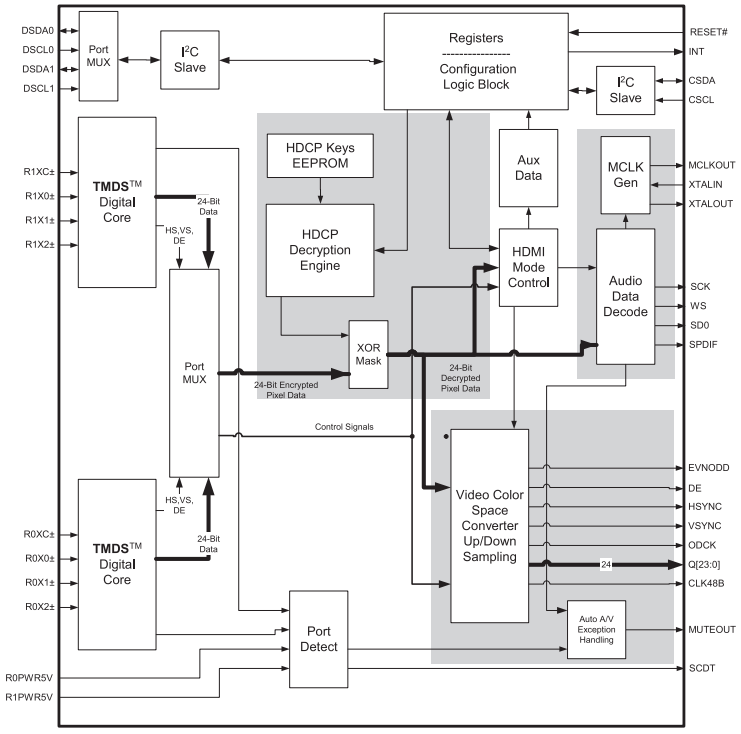


Figure 9-18 Internal block diagram

9.12.6 Diagram B06C, Type SIL9025CTU(IC7817), HDMI Receiver

Block Diagram



Pin Configuration

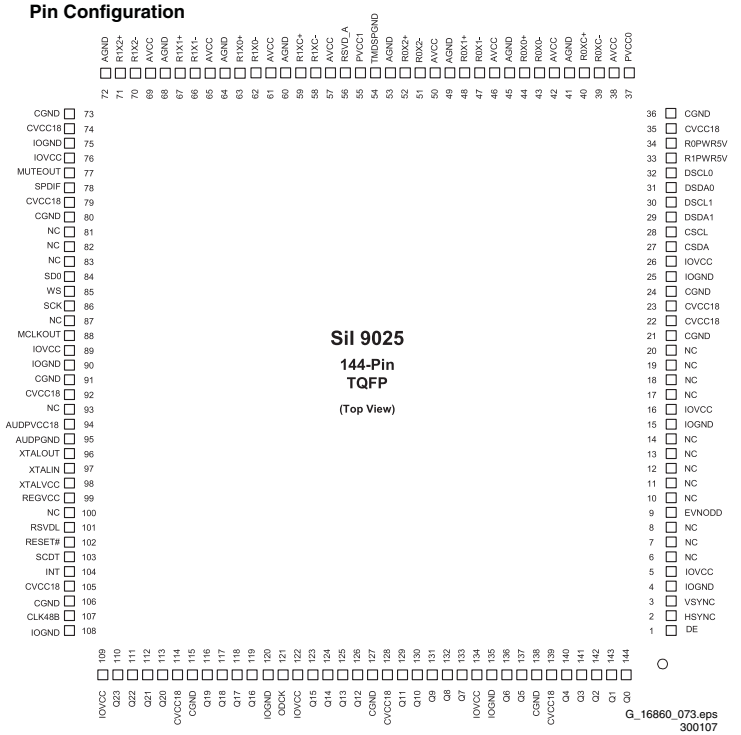
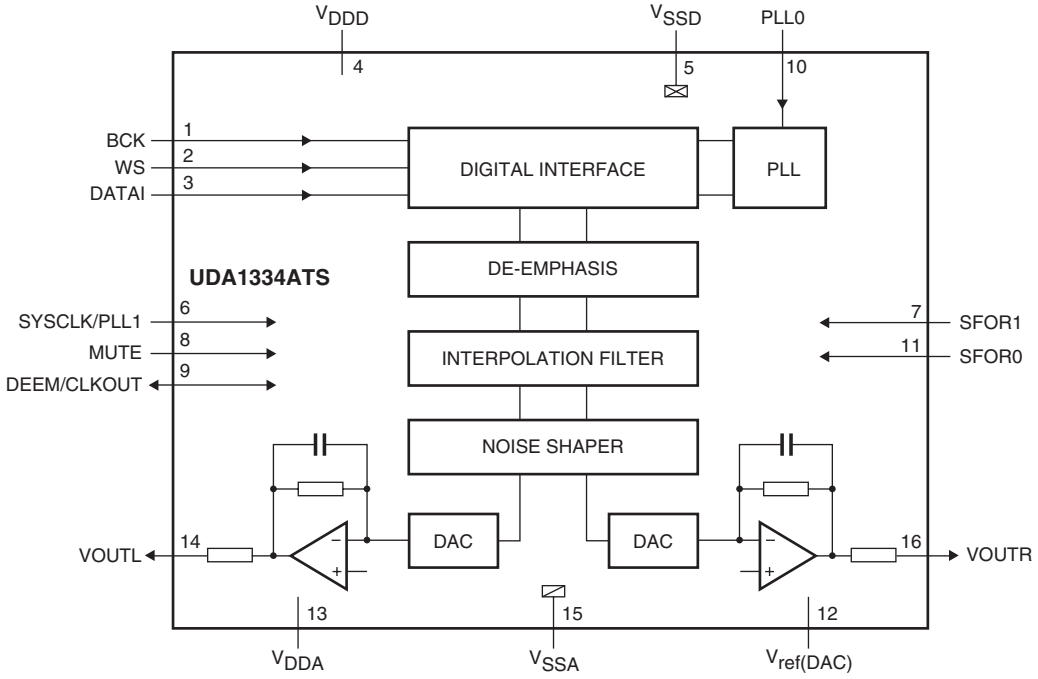


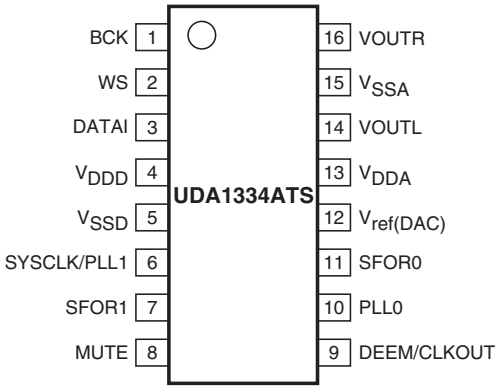
Figure 9-19 Internal block diagram and pin configuration

9.12.7 Diagram B06C, Type UDA1334ATS (IC7810), Audio DAC

Block Diagram



Pin Configuration



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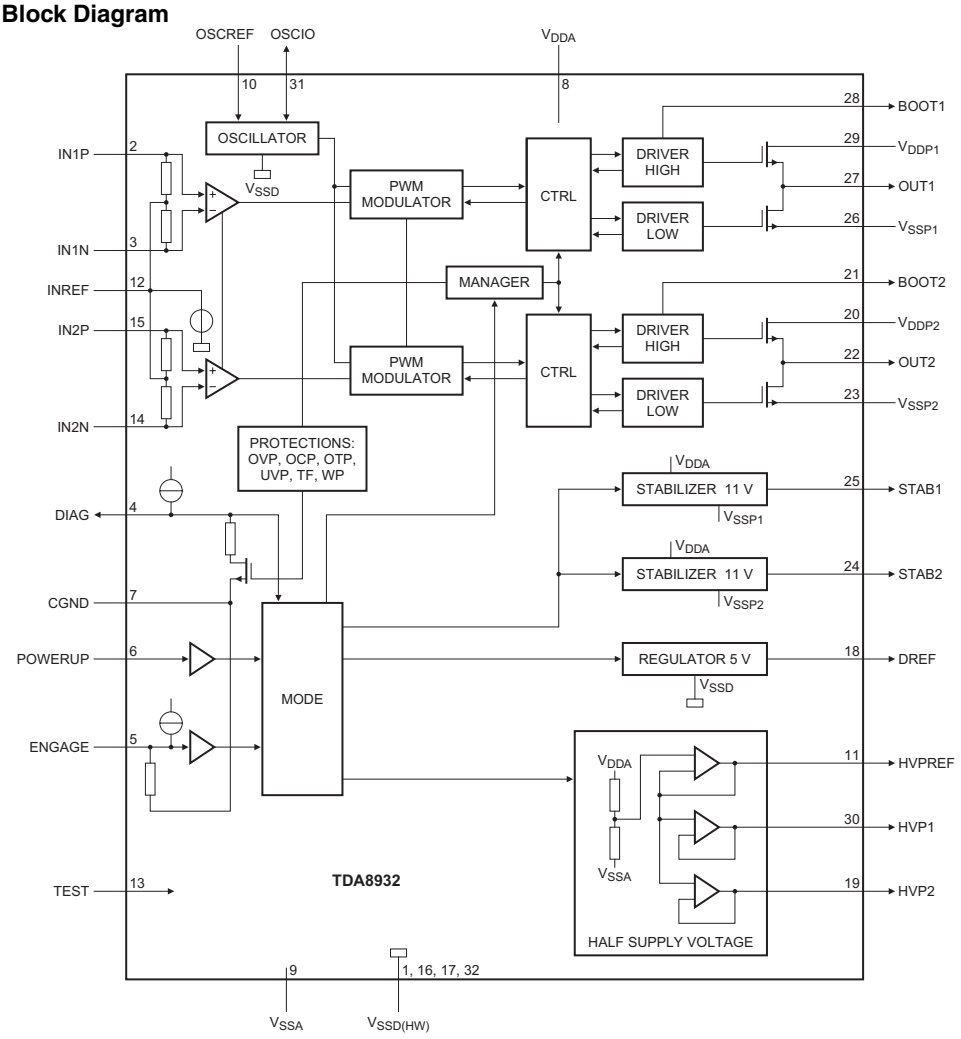
220207

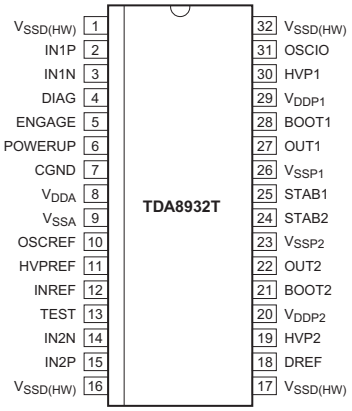
Figure 9-20 Internal block diagram and pin configuration

9.12.8 Diagram B07, Type TDA8932T (IC7A01), Audio Amplifier

Block Diagram



Pin Configuration



G_16860_045.eps
300107

Figure 9-21 Internal block diagram and pin configuration

10. Spare Parts List

Set Level per Model Number (CTN)

26PFL3512D/12

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 249 37682	V260B1-L03 (CMO)
1005▲	3139 128 78521	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08891	Side IO Assy [D]
8002	3104 311 06951	Cable 2p3/180/Inlet
8304	3139 131 09451	Cable 11p/340/11p
8520	3104 311 10701	Cable 12p/680/12p
8521	3104 311 12441	Cable 14p/220/14p
8735	3139 131 08511	Cable 4p/400+820/2ft
8C01	3139 131 08551	Cable 9p/180/9p Bk
8G51	3139 131 08281	Cable 30p/180/30p Fi-x
8M01	3104 311 09961	Cable 3p/140/3p Bk
8M20	3104 311 03811	Cable 7p/480/7p Bk
8P11	3139 131 08581	Cable 8p/220/8p Bk

5213	2422 264 00605	Loudsp. 6Ω 15W FR

26PFL5522D/05 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 234 13682	LC260WX2-SLB2
1005▲	3139 128 78521	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08891	Side IO Assy [D] 26”
8002	3104 311 06951	Cable 2p3/180/2p
8304	3139 131 09451	Cable 11p/340/11p
8520	3104 311 10701	Cable 12p/680/12p
8521	3104 311 12441	Cable 14p/220/14p
8735	3139 131 08511	Cable 04p/400 820/2ft
8C01	3139 131 08551	Cable 9p/180/9p Bk
8G51	3139 131 08281	Cable 30p/180/30p Fi-x
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3104 311 03601	Cable 7p/400/7p
8P11	3139 131 08581	Cable 8p/220/8p Bk

5213	2422 264 00605	Loudsp. 6Ω 15W FR

26PFL5522D/12 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 234 13682	LC260WX2-SLB2
1005▲	3139 128 78521	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08891	Side IO Assy [D] 26”
8002	3104 311 06951	Cable 2p3/180/2p
8304	3139 131 09451	Cable 11p/340/11p
8520	3104 311 10701	Cable 12p/680/12p
8521	3104 311 12441	Cable 14p/220/14p
8735	3139 131 08511	Cable 04p/400 820/2ft
8C01	3139 131 08551	Cable 9p/180/9p Bk
8G51	3139 131 08281	Cable 30p/180/30p Fi-x
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3104 311 03601	Cable 7p/400/7p
8P11	3139 131 08581	Cable 8p/220/8p Bk

5213	2422 264 00605	Loudsp. 6Ω 15W FR

32PFL3512D/12

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 248 65682	V315B1-L05 (CMO)
1005▲	3139 128 78521	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08851	Side IO Assy [D]
8002	3104 311 07121	Cable 2p3/220/Inlet
8304	3139 131 09411	Cable 11p/480/11p
8521	3104 311 12441	Cable 14p/220/14p
8735	3139 131 08671	Cable 4p/480 1000/2ft
8C01	3139 131 08541	Cable 9p/220/9p Bk
8G51	3139 131 08281	Cable 30p/180/30p Fi-x
8M01	3104 311 09961	Cable 3p/140/3p Bk
8M20	3104 311 04341	Cable 7p/560/7p Bk
8P11	3139 131 08581	Cable 8p/220/8p Bk

5213	2422 264 00605	Loudsp. 6Ω 15W FR
5215	2422 264 00607	Loudsp. 6Ω 15W Tw

32PFL5522D/05 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 230 03682	LC320W01-SL06
1005▲	3139 128 78521	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08851	Side IO Assy [D] 32"
8002	3104 311 07121	Cable 2p3/220/Inlet
8304	3104 311 08031	Cable 11p/480/11p
8520	3104 311 10701	Cable 12p/680/12p
8521	3104 311 12431	Cable 14p/180/14p
8735	3139 131 08671	Cable 4p/480 1000/2ft
8C01	3139 131 08541	Cable 9p/220/9p Bk
8G51	3139 131 08281	Cable 30p/180/30p Fi-x
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3139 131 08691	Cable 7p/560/7p Bk
8P11	3139 131 08581	Cable 8p/220/8p Bk

5213	2422 264 00605	Loudsp. 6Ω 15W FR
5215	2422 264 00607	Loudsp. 6Ω 15W Tw

32PFL5522D/12 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
0821	3139 127 09103	HDMI-1 Software
0822	3139 127 09113	HDMI-2 Software
1004▲	9322 230 03682	LC320W01-SL06
1005▲	3139 128 78521	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08851	Side IO Assy [D] 32"
8002	3104 311 07121	Cable 2p3/220/Inlet
8304	3104 311 08031	Cable 11p/480/11p
8520	3104 311 10701	Cable 12p/680/12p
8521	3104 311 12431	Cable 14p/180/14p
8735	3139 131 08671	Cable 4p/480 1000/2ft
8C01	3139 131 08541	Cable 9p/220/9p Bk
8G51	3139 131 08281	Cable 30p/180/30p Fi-x
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3139 131 08691	Cable 7p/560/7p Bk
8P11	3139 131 08581	Cable 8p/220/8p Bk

5213	2422 264 00605	Loudsp. 6Ω 15W FR
5215	2422 264 00607	Loudsp. 6Ω 15W Tw

37PFL3512D/12 (with alt. BOM’s 1 and 2)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 253 29682	T370XW02V9 (AUO) (1)
1004▲	9322 246 96682	LC370WX1-SLB1 (2)
1005▲	3139 128 79011	IPB Pwr. Supply Unit (1)
1005▲	3122 427 24573	Power Supply Unit (2)
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08971	Side IO Assy [D]
8002	3104 311 07121	Cable 2p3/220/Inlet (1)
8002	3139 131 08501	Cable 2p3/100/Inlet (2)
8304	3139 131 09411	Cable 11p/480/11p
8520	3104 311 08191	Cable 12p/1k2/12p (2)
8521	3104 311 12481	Cable 14p/400/14p (2)
8735	3139 131 08031	Cable 4p/560+1000/2ft
8C01	3139 131 08551	Cable 9p/180/9p Bk (1)
8C01	3139 131 08531	Cable 9p/340/9p Bk (2)
8G51	3139 131 08271	Cable 30p/220/30p (1)
8G51	3139 131 08281	Cable 30p/180/30p (2)
8M01	3104 311 09961	Cable 3p/140/3p Bk
8M20	3104 311 13091	Cable 7p/560/7p Bk
8P11	3139 131 08581	Cable 8p/220/8p Bk (1)
8P11	3139 131 08571	Cable 8p/340/8p Bk (2)

5213	2422 264 00605	Loudsp. 6Ω 15W FR
5215	2422 264 00607	Loudsp. 6Ω 15W Tw

37PFL5522D/05 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004	9322 246 96682	LC370WX1-SLB1
1005▲	3122 427 24571	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08971	Side IO Assy [D] 37”
8002	3139 131 08501	Cable 2p3/100/inlet
8304	3104 311 07951	Cable 11p/680/11p
8520	3104 311 08191	Cable 12p/1200/12p
8521	3104 311 12481	Cable 14p/400/14p Wh
8735	3139 131 08041	Cable 4p/560 820/2ft
8C01	3139 131 08531	Cable 9p/340/9p Bk
8G51	3139 131 08281	Cable 30p/180/30p Fi-x
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3104 311 10101	Cable 7p/680/7p Wh
8P11	3139 131 08571	Cable 8p/340/8p Bk

5211	2422 264 00618	Loudsp. 6Ω 15W R
5212	2422 264 00617	Loudsp. 6W 15W L

37PFL5522D/12 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 246 96682	LC370WX1-SLB1
1005▲	3122 427 24571	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08971	Side IO Assy [D] 37”
8002	3139 131 08501	Cable 2p3/100/inlet
8304	3104 311 07951	Cable 11p/680/11p
8520	3104 311 08191	Cable 12p/1200/12p

8521	3104 311 12481	Cable 14p/400/14p Wh
8735	3139 131 08041	Cable 4p/560 820/2ft
8C01	3139 131 08531	Cable 9p/340/9p Bk
8G51	3139 131 08281	Cable 30p/180/30p Fi-x
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3104 311 10101	Cable 7p/680/7p Wh
8P11	3139 131 08571	Cable 8p/340/8p Bk

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5211	2422 264 00618	Loudsp. 6Ω 15W R
5212	2422 264 00617	Loudsp. 6W 15W L

42PFL3512D/12 (with alt. BOM's 1, 2, and 3)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 253 30682	T420XW01V9 (AUO) (1)
1004▲	9322 249 09682	LC420WX5-SLD1 (2)
1004▲	9322 253 95682	LC420WX7-SLB1 (3)
1005▲	3139 128 79001	IPB Pwr. Supply Unit (1)
1005▲	3122 427 24573	Power Supply Unit (2+3)
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08961	Side IO Assy [D]
8002	3104 311 07691	Cable 2p3/280/Inlet (1)
8002	3104 311 08071	Cable 2p3/140/Inlet (2+3)
8304	3139 131 09441	Cable 11p/480/11p
8520	3104 311 08191	Cable 12p/1k2/12p (2+3)
8521	3104 311 12481	Cable 14p/400/14p (2+3)
8735	3139 131 08031	Cable 4p/560+1000/2ft
8C01	3139 131 08551	Cable 9p/180/9p Bk (1)
8C01	3139 131 08521	Cable 9p/400/9p Bk (2+3)
8G51	3139 131 08291	Cable 30p/280/30p (1+2)
8G51	3139 131 09481	Cable 30p/280/30p (3)
8M01	3104 311 09961	Cable 3p/140/3p Bk
8M20	3104 311 10101	Cable 7p/680/7p Bk
8P11	3139 131 08581	Cable 8p/220/8p Bk (1)
8P11	3139 131 08561	Cable 8p/400/8p Bk (2+3)

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5213	2422 264 00605	Loudsp. 6Ω 15W FR
5215	2422 264 00607	Loudsp. 6Ω 15W Tw

42PFL5522D/05 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 246 97682	LC420WX3-SLA1
1005▲	3122 427 24571	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08961	Side IO Assy [D] 42"
8002	3104 311 08071	Cable 2P3/140
8304	3104 311 07951	Cable 11p/680/11p
8520	3104 311 08191	Cable 12p/1200/12p
8521	3104 311 12481	Cable 14p/400/14p Wh
8735	3139 131 08041	Cable 4p/560 820/2ft
8C01	3139 131 08521	Cable 9p/400/9p Bk
8G51	3139 131 08291	Cable 30p/280/30p Fi-x
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3139 131 08611	Cable 7p/680/7p Bk
8P11	3139 131 08561	Cable 8p/400/8p Bk

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5211	2422 264 00618	Loudsp. 6Ω 15W R
5212	2422 264 00617	Loudsp. 6W 15W L

42PFL5522D/12 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 246 97682	LC420WX3-SLA1
1005▲	3122 427 24571	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08961	Side IO Assy [D] 42
8002	3104 311 08071	Cable 2P3/140
8304	3104 311 07951	Cable 11p/680/11p
8520	3104 311 08191	Cable 12p/1200/12p
8521	3104 311 12481	Cable 14p/400/14p Wh
8735	3139 131 08041	Cable 4p/560 820/2ft
8C01	3139 131 08521	Cable 9p/400/9p Bk
8G51	3139 131 08291	Cable 30p/280/30p Fi-x
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3139 131 08611	Cable 7p/680/7p Bk
8P11	3139 131 08561	Cable 8p/400/8p Bk

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5211	2422 264 00618	Loudsp. 6Ω 15W R
5212	2422 264 00617	Loudsp. 6W 15W L

42PFL7662D/05 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0823	Scal. 1080p SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 246 84682	LCD LC420WU2-SLA1
1005▲	3122 427 24571	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08961	Side IO Assy [D] 42
1121	3139 268 06131	1080P Bolt-on Assy [F]
8002	3104 311 08071	Cable 2P3/140
8304	3104 311 08161	Cable 11p/480/11p
8520	3104 311 08191	Cable 12p/1200/12p
8521	3104 311 12481	Cable 14p/400/14p Wh
8710	3139 131 09231	Cable 4p/560/4p
8735	3139 131 08041	Cable 4p/560 820/2ft
8C01	3139 131 08521	Cable 9p/400/9p Bk
8G52	3139 131 09001	Cable 41p/280/51p
8G53	3139 131 09351	Cable 30p/120/40p
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3139 131 08611	Cable 7p/680/7p Bk
8P11	3139 131 08561	Cable 8p/400/8p Bk

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5211	2422 264 00618	Loudsp. 6Ω 15W R
5212	2422 264 00617	Loudsp. 6W 15W L

42PFL7662D/12 (ME7)

0815	Proc. main SW	Download from website
0816	Proc. NVM SW	Download from website
0821	HDMI-1 SW	Download from website
0822	HDMI-2 SW	Download from website
0823	Scaler 1080p SW	Download from website
0851	IBOZ main SW	Download from website
0852	IBOZ NVM SW	Download from website
1004▲	9322 246 84682	LCD LC420WU2-SLA1
1005▲	3122 427 24571	Power Supply Unit
1112	3139 268 05931	IR/LED Assy [J]
1114	3139 268 05921	Keyboard Assy [E]
1116	3139 268 08961	Side IO Assy [D] 42
1121	3139 268 06131	1080P Bolt-on Assy [F]
8002	3104 311 08071	Cable 2P3/140
8304	3104 311 08161	Cable 11p/480/11p
8520	3104 311 08191	Cable 12p/1200/12p
8521	3104 311 12481	Cable 14p/400/14p Wh
8710	3139 131 09231	Cable 4p/560/4p
8735	3139 131 08041	Cable 4p/560 820/2ft
8C01	3139 131 08521	Cable 9p/400/9p Bk
8G52	3139 131 09001	Cable 41p/280/51p
8G53	3139 131 09351	Cable 30p/120/40p
8M01	3139 131 08601	Cable 3p/80/3p Bk
8M20	3139 131 08611	Cable 7p/680/7p Bk
8P11	3139 131 08561	Cable 8p/400/8p Bk

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5211	2422 264 00618	Loudsp. 6Ω 15W R
5212	2422 264 00617	Loudsp. 6W 15W L

Small Signal Board [B]

Various

1101	3112 297 14001	Tuner TD1316AF/IHP-2
1102	9322 042 72682	SAW 38.9MHz K3953M
1103	2422 549 44341	SAW 38.9MHz K9656M
1104	2422 543 01386	Xtal 4MHz 20p
1201	2422 543 01133	Xtal 14.32MHz 20pF
1210	2422 549 45325	Bead 67Ω at 100MHz
1211	2422 549 45325	Bead 67Ω at 100MHz
1212	2422 549 45325	Bead 67Ω at 100MHz
1213	2422 549 45325	Bead 67Ω at 100MHz
1214	2422 549 45325	Bead 67Ω at 100MHz
1215	2422 549 45325	Bead 67Ω at 100MHz
1216	2422 549 45325	Bead 67Ω at 100MHz
1301	2422 543 01526	Xtal 10MHz 12p NX8045
1304	2422 025 10655	Connector 11p m
1311	2422 025 18738	Connector 3p m
1314	2422 025 18749	Connector 3p m
1411	2422 543 01461	Xtal 18.432MHz 12p
1504	4822 265 11338	21p (SCART)
1506	4822 265 11338	21p (SCART)
1615	2422 026 05894	Socket CINCH
1735	2422 025 09406	Connector 4p m
1810	2422 033 00617	Socket HDMI
1811	2422 033 00617	Socket HDMI
1823	2422 543 01517	Xtal 28M322 18p NX5032
1C01	2422 025 10769	Connector 9p m
1G51	2422 025 18772	Connector 30p m
1J14	2422 025 18749	Connector 3p m
1K00	2422 025 20061	Socket PCMCIA H
1M20	4822 267 10618	Connector 7p
1P11	4822 265 11352	Connector 8p

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2112	2020 552 00343	22µF 10% 16V
2113	5322 126 11583	10nF 10% 50V 0603
2117	5322 126 11583	10nF 10% 50V 0603
2118	5322 126 11583	10nF 10% 50V 0603
2120	2020 552 00343	22µF 10% 16V
2121	3198 016 31590	15pF 10% 50V 0603
2122	3198 016 31590	15pF 10% 50V 0603
2123	4822 126 14247	1.5nF 50V 0603
2125	3198 017 44740	470nF 10V 0603
2126	3198 017 42240	220nF 16V Y5V 0603
2127	4822 122 33761	22pF 5% 50V
2128	5322 126 11583	10nF 10% 50V 0603
2129	2020 552 00343	22µF 10% 16V
2130	5322 126 11583	10nF 10% 50V 0603
2131	2020 552 00343	22µF 10% 16V
2132	2020 552 00343	22µF 10% 16V
2133	5322 126 11583	10nF 10% 50V 0603
2136	3198 017 44740	470nF 10V 0603
2137	5322 126 11583	10nF 10% 50V 0603
2138	5322 126 11583	10nF 10% 50V 0603
2139	4822 126 14315	390pF 5% 50V 0603
2143	5322 126 11578	1nF 10% 50V 0603
2144	5322 126 11583	10nF 10% 50V 0603
2145	5322 126 11578	1nF 10% 50V 0603
2146	3198 017 41050	1µF 10V 0603
2147	2238 786 19856	330nF 20% 160V 0603
2148	2238 586 59812	100nF 20% 50V 0603
2149	2020 552 00132	2.2µF 10% 10V
2207	2238 586 59812	100nF 20% 50V 0603
2208	4822 124 12095	100µF 20% 16V
2209	4822 124 12095	100µF 20% 16V
2210	2238 586 59812	100nF 20% 50V 0603
2211	2020 552 00291	10µF 20% 6V3 0603
2211	2020 552 00415	10µF 20% 6.3V 0603
2212	2238 586 59812	100nF 20% 50V 0603
2213	2238 586 59812	100nF 20% 50V 0603
2214	2238 586 59812	100nF 20% 50V 0603
2215	2238 586 59812	100nF 20% 50V 0603
2216	2020 552 00291	10µF 20% 6V3 0603
2216	2020 552 00415	10µF 20% 6.3V 0603
2217	2238 586 59812	100nF 20% 50V 0603
2218	2238 586 59812	100nF 20% 50V 0603
2219	2238 586 59812	100nF 20% 50V 0603
2220	2238 586 59812	100nF 20% 50V 0603
2221	2238 586 59812	100nF 20% 50V 0603
2222	2238 586 59812	100nF 20% 50V 0603
2223	2238 586 59812	100nF 20% 50V 0603
2224	2238 586 59812	100nF 20% 50V 0603
2225	2238 586 59812	100nF 20% 50V 0603
2226	2238 586 59812	100nF 20% 50V 0603
2227	2238 586 59812	100nF 20% 50V 0603
2228	2238 586 59812	100nF 20% 50V 0603
2229	2020 552 00134	22µF 20% 6.3V 0805
2230	2020 552 00291	10µF 20% 6V3 0603
2230	2020 552 00415	10µF 20% 6.3V 0603
2231	2238 586 59812	100nF 20% 50V 0603
2232	2238 586 59812	100nF 20% 50V 0603
2233	2238 586 59812	100nF 20% 50V 0603
2234	2238 586 59812	100nF 20% 50V 0603
2235	2238 586 59812	100nF 20% 50V 0603
2236	2020 552 00291	10µF 20% 6V3 0603
2236	2020 552 00415	10µF 20% 6.3V 0603

2237	2238 586 59812	100nF 20% 50V 0603
2238	2238 586 59812	100nF 20% 50V 0603
2239	2238 586 59812	100nF 20% 50V 0603
2240	2238 586 59812	100nF 20% 50V 0603
2241	2238 586 59812	100nF 20% 50V 0603
2242	2238 586 59812	100nF 20% 50V 0603
2243	2238 586 59812	100nF 20% 50V 0603
2244	2238 586 59812	100nF 20% 50V 0603
2245	2238 586 59812	100nF 20% 50V 0603
2246	2020 552 96749	20pF 5% 50V 0603
2247	2020 552 96749	20pF 5% 50V 0603
2248	2022 552 05679	1µF 10% 16V 0805
2250	2238 586 59812	100nF 20% 50V 0603
2251	2238 586 59812	100nF 20% 50V 0603
2252	2238 586 59812	100nF 20% 50V 0603
2253	2238 586 59812	100nF 20% 50V 0603
2254	2238 586 59812	100nF 20% 50V 0603
2255	2238 586 59812	100nF 20% 50V 0603
2256	2238 586 59812	100nF 20% 50V 0603
2257	2238 586 59812	100nF 20% 50V 0603
2258	2238 586 59812	100nF 20% 50V 0603
2259	2238 586 59812	100nF 20% 50V 0603
2260	2238 586 59812	100nF 20% 50V 0603
2261	2238 586 59812	100nF 20% 50V 0603
2266	2238 586 59812	100nF 20% 50V 0603
2267	2238 586 59812	100nF 20% 50V 0603
2268	2238 586 59812	100nF 20% 50V 0603
2269	2238 586 59812	100nF 20% 50V 0603
2270	2238 586 59812	100nF 20% 50V 0603
2271	2238 586 59812	100nF 20% 50V 0603
2272	2238 586 59812	100nF 20% 50V 0603
2273	2238 586 59812	100nF 20% 50V 0603
2274	2238 586 59812	100nF 20% 50V 0603
2275	2238 586 15628	2.7nF 10% 50V 0603
2276	2238 586 15628	2.7nF 10% 50V 0603
2277	2238 586 59812	100nF 20% 50V 0603
2279	2020 552 00291	10µF 20% 6V3 0603
2279	2020 552 00415	10µF 20% 6.3V 0603
2280	2020 552 00291	10µF 20% 6V3 0603
2280	2020 552 00415	10µF 20% 6.3V 0603
2282	2020 552 00291	10µF 20% 6V3 0603
2282	2020 552 00415	10µF 20% 6.3V 0603
2284	2020 552 00291	10µF 20% 6V3 0603
2284	2020 552 00415	10µF 20% 6.3V 0603
2286	2020 552 00291	10µF 20% 6V3 0603
2286	2020 552 00415	10µF 20% 6.3V 0603
2287	2020 552 00291	10µF 20% 6V3 0603
2287	2020 552 00415	10µF 20% 6.3V 0603
2288	2020 552 00291	10µF 20% 6V3 0603
2288	2020 552 00415	10µF 20% 6.3V 0603
2289	2020 552 00291	10µF 20% 6V3 0603
2289	2020 552 00415	10µF 20% 6.3V 0603
2290	2020 552 00291	10µF 20% 6V3 0603
2290	2020 552 00415	10µF 20% 6.3V 0603
2291	2020 552 00291	10µF 20% 6V3 0603
2291	2020 552 00415	10µF 20% 6.3V 0603
2292	2020 552 00291	10µF 20% 6V3 0603
2292	2020 552 00415	10µF 20% 6.3V 0603
2293	2020 552 00291	10µF 20% 6V3 0603
2293	2020 552 00415	10µF 20% 6.3V 0603
2295	2238 586 59812	100nF 20% 50V 0603
2296	2238 586 59812	100nF 20% 50V 0603
2297	2020 552 00134	22µF 20% 6.3V 0805
2298	2238 586 59812	100nF 20% 50V 0603
2310	2238 586 59812	100nF 20% 50V 0603
2311	2020 552 00291	10µF 20% 6V3 0603
2311	2020 552 00415	10µF 20% 6.3V 0603
2312	2238 586 59812	100nF 20% 50V 0603
2313	2238 586 59812	100nF 20% 50V 0603
2314	3198 016 31590	15pF 10% 50V 0603
2315	2238 586 59812	100nF 20% 50V 0603
2316	3198 016 31590	15pF 10% 50V 0603
2317	2238 586 59812	100nF 20% 50V 0603
2318	2238 586 59812	100nF 20% 50V 0603
2320	2238 586 59812	100nF 20% 50V 0603
2323	2238 586 59812	100nF 20% 50V 0603
2327	5322 126 11583	10nF 10% 50V 0603
2329	5322 126 11578	1nF 10% 50V 0603
2330	5322 126 11578	1nF 10% 50V 0603
2331	5322 126 11578	1nF 10% 50V 0603
2332	5322 126 11578	1nF 10% 50V 0603
2333	5322 126 11578	1nF 10% 50V 0603
2335	5322 126 11578	1nF 10% 50V 0603
2336	5322 126 11578	1nF 10% 50V 0603
2337	5322 126 11578	1nF 10% 50V 0603
2338	4822 126 13879	220nF +80-20% 16V
2408	4822 126 13881	470pF 5% 50V
2409	4822 126 14247	1.5nF 50V 0603
2410	4822 124 23002	10µF 16V
2411	2020 552 00291	10µF 20% 6V3 0603
2411	2020 552 00415	10µF 20% 6.3V 0603
2412	4822 126 13883	220pF 5% 50V
2413	4822 126 13883	220pF 5% 50V
2414	2020 552 00291	10µF 20% 6V3 0603
2414	2020 552 00415	10µF 20% 6.3V 0603
2415	3198 016 33380	3.3pF 50V 0603
2416	3198 016 33380	3.3pF 50V 0603
2417	4822 126 14241	330pF 0603 50V
2418	4822 126 14241	330pF 0603 50V
2419	2238 586 59812	100nF 20% 50V 0603
2420	4822 124 23002	10µF 16V
2421	4822 126 14241	330pF 0603 50V
2422	4822 126 14241	330pF 0603 50V
2423	4822 124 23002	10µF 16V
2424	2020 552 00291	10µF 20% 6V3 0603
2424	2020 552 00415	10µF 20% 6.3V 0603
2425	2020 552 00291	10µF 20% 6V3 0603
2425	2020 552 00415	10µF 20% 6.3V 0603
2426	2020 552 00291	10µF 20% 6V3 0603
2426	2020 552 00415	10µF 20% 6.3V 0603
2427	2020 552 00291	10µF 20% 6V3 0603
2427	2020 552 00415	10µF 20% 6.3V 0603
2428	2020 552 94427	100pF 5% 50V
2429	2020 552 94427	100pF 5% 50V
2430	2020 552 94427	100pF 5% 50V
2431	2020 552 94427	100pF 5% 50V
2432	4822 126 14225	56pF 5% 50V 0603
2433	4822 126 14241	330pF 0603 50V
2434	4822 126 14241	330pF 0603 50V
2435	4822 126 14241	330pF 0603 50V
2436	2020 552 00291	10µF 20% 6V3 0603
2436	2020 552 00415	10µF 20% 6.3V 0603
2437	2020 552 00291	10µF 20% 6V3 0603
2437	2020 552 00415	10µF 20% 6.3V 0603
2438	2238 586 59812	100nF 20% 50V 0603
2439	2020 552 00247	470nF 10% 25V
2440	2020 552 00247	470nF 10% 25V
2441	4822 126 14247	1.5nF 50V 0603
2442	4822 126 13881	470pF 5% 50V
2443	4822 126 14247	1.5nF 50V 0603
2444	4822 126 13881	470pF 5% 50V
2445	2238 586 59812	100nF 20% 50V 0603
2502	4822 126 14241	330pF 0603 50V
2506	4822 126 14241	330pF 0603 50V
2508	4822 126 14241	330pF 0603 50V
2509	4822 126 13879	220nF +80-20% 16V
2512	5322 126 11579	3.3nF 10% 63V
2514	4822 126 14241	330pF 0603 50V
2515	4822 126 13879	220nF +80-20% 16V
2517	5322 126 11579	3.3nF 10% 63V
2518	4822 126 13879	220nF +80-20% 16V
2520	5322 126 11579	3.3nF 10% 63V
2521	4822 126 13879	220nF +80-20% 16V
2523	5322 126 11579	3.3nF 10% 63V
2525	4822 126 13879	220nF +80-20% 16V
2533	4822 126 13879	220nF +80-20% 16V
2534	4822 126 13879	220nF +80-20% 16V
2536	4822 126 13879	220nF +80-20% 16V
2607	4822 126 13879	220nF +80-20% 16V
2608	5322 126 11579	3.3nF 10% 63V
2610	4822 126 13879	220nF +80-20% 16V
2612	5322 126 11579	3.3nF 10% 63V
2801	4822 124 11131	47µF 6.3V
2802	2238 586 59812	100nF 20% 50V 0603
2803	2238 586 59812	100nF 20% 50V 0603
2804	2238 586 59812	100nF 20% 50V 0603
2805	4822 124 11131	47µF 6.3V
2806	2238 586 59812	100nF 20% 50V 0603
2807	2238 586 59812	100nF 20% 50V 0603
2808	4822 124 11131	47µF 6.3V
2809	5322 126 11583	10nF 10% 50V 0603
2810	5322 126 11583	10nF 10% 50V 0603
2811	2020 552 00291	10µF 20% 6V3 0603
2811	2020 552 00415	10µF 20% 6.3V 0603
2812	2020 552 00291	10µF 20% 6V3 0603
2812	2020 552 00415	10µF 20% 6.3V 0603
2813	4822 126 14507	18pF 5% 50V 0603
2814	5322 126 11583	10nF 10% 50V 0603
2815	5322 126 11583	10nF 10% 50V 0603
2816	5322 126 11578	1nF 10% 50V 0603
2817	2238 586 59812	100nF 20% 50V 0603
2818	2238 586 59812	100nF 20% 50V 0603
2819	2238 586 59812	100nF 20% 50V 0603
2828	4822 126 14507	18pF 5% 50V 0603
2829	2238 586 59812	100nF 20% 50V 0603
2830	2238 586 59812	100nF 20% 50V 0603
2833	2238 586 59812	100nF 20% 50V 0603
2835	2238 586 59812	100nF 20% 50V 0603
2836	2238 586 59812	100nF 20% 50V 0603
2838	2238 586 59812	100nF 20% 50V 0603
2839	2238 586 59812	100nF 20% 50V 0603
2840	2238 586 59812	100nF 20% 50V 0603
2843	2238 586 59812	100nF 20% 50V 0603
2844	2238 586 59812	100nF 20% 50V 0603
2845	2238 586 59812	100nF 20% 50V 0603
2847	5322 126 11578	1nF 10% 50V 0603
2848	5322 126 11578	1nF 10% 50V 0603
2849	5322 126 11578	1nF 10% 50V 0603
2850	5322 126 11578	1nF 10% 50V 0603
2851	5322 126 11578	1nF 10% 50V 0603
2852	5322 126 11578	1nF 10% 50V 0603
2853	5322 126 11578	1nF 10% 50V 0603
2854	5322 126 11578	1nF 10% 50V 0603
2855	3198 016 31020	1nF 25V 0603
2856	5322 126 11578	1nF 10% 50V 0603
2857	5322 126 11578	1nF 10% 50V 0603
2858	5322 126 11578	1nF 10% 50V 0603
2859	5322 126 11578	1nF 10% 50V 0603
2860	5322 126 11578	1nF 10% 50V 0603
2861	5322 126 11578	1nF 10% 50V 0603
2865	3198 016 31020	1nF 25V 0603
2866	5322 126 11578	1nF 10% 50V 0603
2867	5322 126 11578	1nF 10% 50V 0603
2868	5322 126 11578	1nF 10% 50V 0603
2869	5322 126 11578	1nF 10% 50V 0603
2870	5322 126 11578	1nF 10% 50V 0603
2871	5322 126 11578	1nF 10% 50V 0603
2872	5322 126 11578	1nF 10% 50V 0603
2873	5322 126 11578	1nF 10% 50V 0603
2874	3198 016 31020	1nF 25V 0603
2875	5322 126 11578	1nF 10% 50V 0603
2876	5322 126 11578	1nF 10% 50V 0603
2901	2020 552 96664	33pF 50V 0603
2902	3198 017 44740	470nF 10V 0603
2903	4822 124 12095	100µF 20% 16V
2904	3198 017 44740	470nF 10V 0603
2905	2020 552 96664	33pF 50V 0603
2906	4822 124 12095	100µF 20% 16V
2907	3198 017 44740	470nF 10V 0603
2908	4822 126 13879	220nF +80-20% 16V
2913	4822 126 13879	220nF +80-20% 16V
2940	4822 124 11131	47µF 6.3V
2A01	2238 586 59812	100nF 20% 50V 0603
2A02	2238 586 59812	100nF 20% 50V 0603
2A04	2020 021 00215	220µF 20% 25V
2A08	2020 021 00215	220µF 20% 25V
2A09	2238 586 59812	100nF 20% 50V 0603
2A10	2238 586 59812	100nF 20% 50V 0603
2A11	2020 552 96807	1µF 10% 10V 0603
2A12	4822 126 13883	220pF 5% 50V
2A13	3198 017 42240	220nF 16V Y5V 0603
2A14	2020 552 00247	470nF 10% 25V
2A15	2020 552 96807	1µF 10% 10V 0603
2A16	2020 552 96807	1µF 10% 10V 0603
2A17	3198 016 31020	1nF 25V 0603
2A18	3198 016 31020	1nF 25V 0603
2A19	4822 126 13883	220pF 5% 50V
2A20	2020 552 96807	1µF 10% 10V 0603
2A21	3198 016 31020	1nF 25V 0603
2A22	2238 586 59812	100nF 20% 50V 0603
2A23	3198 016 31020	1nF 25V 0603
2A24	2238 586 59812	100nF 20% 50V 0603
2A25	3198 017 31530	15nF 20% 50V 0603
2A26	3198 017 42240	220nF 16V Y5V 0603
2A27	3198 017 31530	15nF 20% 50V 0603
2A28	2020 552 00247	470nF 10% 25V
2A29	2238 586 59812	100nF 20% 50V 0603
2A30	2238 586 59812	100nF 20% 50V 0603
2A31	3198 016 31020	1nF 25V 0603
2A32	3198 016 31020	1nF 25V 0603
2A33	2238 586 59812	100nF 20% 50V 0603
2A34	2238 586 59812	100nF 20% 50V 0603
2A35	3198 016 31020	1nF 25V 0603
2A36	3198 016 31020	1nF 25V 0603
2A37	3198 017 42240	220nF 16V Y5V 0603
2A38	3198 017 42240	220nF 16V Y5V 0603
2A40	2020 552 00247	470nF 10% 25V
2A41	2020 552 96807	1µF 10% 10V 0603
2A45	3198 016 31020	1nF 25V 0603
2A46	3198 024 44730	47nF 50V 0603
2A47	3198 024 44730	47nF 50V 0603
2B10	4822 124 12095	100µF 20% 16V
2B11	5322 126 11583	10nF 10% 50V 0603
2B12	2020 552 00343	22µF 10% 16V
2B13	2022 031 00373	470µF 20% 16V
2B14	4822 126 13883	220pF 5% 50V
2B15	2238 916 15641	22nF 10% 25V 0603
2B17	2238 586 59812	100nF 20% 50V 0603
2B18	4822 124 23002	10µF 16V
2B19	2022 031 00308	22µF 20% 35V
2B20	2020 552 94427	100pF 5% 50V
2B21	4822 124 23002	10µF 16V
2B22	3198 030 74780	4u7 20% 35V
2B23	4822 124 23002	10µF 16V
2B24	2020 012 93822	47µF 20% 16V
2B25	2238 586 59812	100nF 20% 50V 0603
2B26	4822 124 23002	10µF 16V
2C55	5322 126 11578	1nF 10% 50V 0603
2C56	5322 126 11578	1nF 10% 50V 0603
2C57	5322 126 11578	1nF 10% 50V 0603
2F10	2238 586 59812	100nF 20% 50V 0603
2F11	2020 012 93822	47µF 20% 16V

2F12	2238 586 59812	100nF 20% 50V 0603
2F13	2238 586 59812	100nF 20% 50V 0603
2F14	2238 586 59812	100nF 20% 50V 0603
2F15	2238 586 59812	100nF 20% 50V 0603
2F16	2238 586 59812	100nF 20% 50V 0603
2F17	2238 586 59812	100nF 20% 50V 0603
2F18	2238 586 59812	100nF 20% 50V 0603
2F19	2238 586 59812	100nF 20% 50V 0603
2F20	2238 586 59812	100nF 20% 50V 0603
2F21	2020 012 93822	47µF 20% 16V
2F22	2238 586 59812	100nF 20% 50V 0603
2F23	2238 586 59812	100nF 20% 50V 0603
2F24	2238 586 59812	100nF 20% 50V 0603
2F25	2238 586 59812	100nF 20% 50V 0603
2F26	2238 586 59812	100nF 20% 50V 0603
2F27	2238 586 59812	100nF 20% 50V 0603
2F28	2238 586 59812	100nF 20% 50V 0603
2F29	2238 586 59812	100nF 20% 50V 0603
2F30	2238 586 59812	100nF 20% 50V 0603
2F31	2238 586 59812	100nF 20% 50V 0603
2F32	2238 586 59812	100nF 20% 50V 0603
2F33	4822 122 33741	10pF 10% 50V
2G02	4822 124 23002	10µF 16V
2G03	2238 586 59812	100nF 20% 50V 0603
2G04	2238 586 59812	100nF 20% 50V 0603
2G05	2238 586 59812	100nF 20% 50V 0603
2G06	2238 586 59812	100nF 20% 50V 0603
2G07	2238 586 59812	100nF 20% 50V 0603
2G08	2238 586 59812	100nF 20% 50V 0603
2G09	2238 586 59812	100nF 20% 50V 0603
2G10	2238 586 59812	100nF 20% 50V 0603
2G11	2238 586 59812	100nF 20% 50V 0603
2G12	2238 586 59812	100nF 20% 50V 0603
2G13	2238 586 59812	100nF 20% 50V 0603
2G14	2238 586 59812	100nF 20% 50V 0603
2G15	2238 586 59812	100nF 20% 50V 0603
2G16	2238 586 59812	100nF 20% 50V 0603
2G17	4822 124 23002	10µF 16V
2G18	4822 124 23002	10µF 16V
2G19	2238 586 59812	100nF 20% 50V 0603
2G20	2238 586 59812	100nF 20% 50V 0603
2G21	2238 586 59812	100nF 20% 50V 0603
2G22	4822 124 23002	10µF 16V
2G23	4822 124 23002	10µF 16V
2G24	4822 124 23002	10µF 16V
2G32	2238 586 59812	100nF 20% 50V 0603
2G33	4822 124 23002	10µF 16V
2H03	2238 586 59812	100nF 20% 50V 0603
2H04	2238 586 59812	100nF 20% 50V 0603
2H06	4822 124 23002	10µF 16V
2H07	4822 124 23002	10µF 16V
2H08	2238 586 59812	100nF 20% 50V 0603
2H09	2238 586 59812	100nF 20% 50V 0603
2H10	2238 586 59812	100nF 20% 50V 0603
2H11	2238 586 59812	100nF 20% 50V 0603
2H12	2238 586 59812	100nF 20% 50V 0603
2H13	2238 586 59812	100nF 20% 50V 0603
2H14	4822 126 13879	220nF +80-20% 16V
2H15	4822 126 13879	220nF +80-20% 16V
2J01	4822 124 23002	10µF 16V
2J02	2238 586 59812	100nF 20% 50V 0603
2J04	5322 124 41945	22µF 20% 35V
2J05	4822 124 12095	100µF 20% 16V
2J06	2238 586 59812	100nF 20% 50V 0603
2J62	3198 016 36890	68pF 50V 0603
2J63	4822 126 14508	180pF 5% 50V 0603
2J66	4822 126 14508	180pF 5% 50V 0603
2J67	3198 016 36890	68pF 50V 0603
2J69	4822 126 14508	180pF 5% 50V 0603
2J70	3198 016 36890	68pF 50V 0603
2J72	4822 126 14508	180pF 5% 50V 0603
2J73	3198 016 36890	68pF 50V 0603
2K00	2238 586 59812	100nF 20% 50V 0603
2K01	2238 586 59812	100nF 20% 50V 0603
2K02	2238 586 59812	100nF 20% 50V 0603
2K03	2238 586 59812	100nF 20% 50V 0603
2K04	2238 586 59812	100nF 20% 50V 0603
2K05	2238 586 59812	100nF 20% 50V 0603
2K06	4822 124 23002	10µF 16V
2K07	4822 124 23002	10µF 16V
2K08	2238 586 59812	100nF 20% 50V 0603
2K09	2238 586 59812	100nF 20% 50V 0603
2K10	2238 586 59812	100nF 20% 50V 0603
2K11	4822 124 23002	10µF 16V
2K12	2238 586 59812	100nF 20% 50V 0603
2K13	4822 124 23002	10µF 16V
2K14	5322 126 11578	1nF 10% 50V 0603
2K15	2020 552 94427	100pF 5% 50V
2K16	3198 017 34730	47nF 16V 0603
2K17	3198 017 34730	47nF 16V 0603
2L24	4822 126 13879	220nF +80-20% 16V
2L25	4822 126 13879	220nF +80-20% 16V

–WW–

3110	3198 021 38220	8.2kΩ 5% 0.062W 0603
3111	4822 051 30562	5.6kΩ 5% 0.063W 0603
3115	4822 051 30393	39kΩ 5% 0.062W
3116	4822 051 30682	6.8Ω 5% 0.062W
3117	4822 051 30222	2.2kΩ 5% 0.062W
3118	4822 051 30222	2.2kΩ 5% 0.062W
3119	4822 051 30223	22kΩ 5% 0.062W
3120	2422 549 42896	Bead 120Ω 100MHz
3121	2422 549 42896	Bead 120Ω 100MHz
3122	4822 051 30183	18kΩ 5% 0.062W
3123	4822 051 30151	150Ω 5% 0.062W
3123	4822 051 30331	330Ω 5% 0.062W
3124	4822 051 30101	100Ω 5% 0.062W
3125	4822 051 30151	150Ω 5% 0.062W
3126	4822 051 30181	180Ω 5% 0.062W
3127	4822 051 30562	5.6kΩ 5% 0.063W 0603
3128	4822 051 30101	100Ω 5% 0.062W
3129	4822 051 30101	100Ω 5% 0.062W
3133▲	4822 117 11151	1Ω 5%
3134▲	4822 117 11151	1Ω 5%
3135	4822 117 12971	15Ω 5% 0603 0.62W
3136	2322 762 60479	47Ω 5% 2512
3137	2322 762 60479	47Ω 5% 2512
3201	3198 031 11010	4 x 100Ω 5% 1206
3202	3198 031 11010	4 x 100Ω 5% 1206
3203	4822 117 13523	220Ω 5% 0.63W
3204	4822 117 13523	220Ω 5% 0.63W
3211	4822 051 30102	1kΩ 5% 0.062W
3212	4822 051 30101	100Ω 5% 0.062W
3213	4822 117 12925	47kΩ 1% 0.063W 0603
3215	4822 051 30101	100Ω 5% 0.062W
3216	4822 051 30479	47Ω 5% 0.062W
3217	4822 117 12925	47kΩ 1% 0.063W 0603
3221	4822 051 30472	4.7Ω 5% 0.062W
3222	4822 051 30472	4.7Ω 5% 0.062W
3239	4822 051 30101	100Ω 5% 0.062W
3241	4822 051 30221	220Ω 5% 0.062W
3242	4822 051 30472	4.7Ω 5% 0.062W
3243	4822 051 30101	100Ω 5% 0.062W
3244	3198 021 32290	22Ω 5% 0603
3245	4822 051 30103	10kΩ 5% 0.062W
3246	4822 051 30101	100Ω 5% 0.062W
3247	4822 051 30101	100Ω 5% 0.062W
3248	3198 021 32290	22Ω 5% 0603
3260	2350 035 10229	4 x 22Ω 5% 1206
3261	2350 035 10229	4 x 22Ω 5% 1206
3262	2350 035 10229	4 x 22Ω 5% 1206
3263	2350 035 10229	4 x 22Ω 5% 1206
3264	2350 035 10229	4 x 22Ω 5% 1206
3265	2350 035 10229	4 x 22Ω 5% 1206
3266	3198 021 32290	22Ω 5% 0603
3267	3198 021 32290	22Ω 5% 0603
3268	2350 035 10229	4 x 22Ω 5% 1206
3271	2350 035 10229	4 x 22Ω 5% 1206
3300	4822 117 11817	1.2kΩ 1% 0.0625W
3303	4822 051 30101	100Ω 5% 0.062W
3305	4822 051 30332	3.3Ω 5% 0.062W
3308	4822 051 30332	3.3Ω 5% 0.062W
3310	4822 051 30102	1kΩ 5% 0.062W
3313	4822 051 30331	330Ω 5% 0.062W
3314	4822 051 30103	10kΩ 5% 0.062W
3315	4822 051 30101	100Ω 5% 0.062W
3316	4822 051 30103	10kΩ 5% 0.062W
3318	4822 051 30101	100Ω 5% 0.062W
3319	4822 051 30103	10kΩ 5% 0.062W
3320	4822 051 30101	100Ω 5% 0.062W
3322	4822 051 30101	100Ω 5% 0.062W
3323	4822 051 30101	100Ω 5% 0.062W
3324	4822 051 30331	330Ω 5% 0.062W
3325	4822 051 30103	10kΩ 5% 0.062W
3329	4822 051 30101	100Ω 5% 0.062W
3336	4822 051 30101	100Ω 5% 0.062W
3338	4822 051 30101	100Ω 5% 0.062W
3339	4822 051 30101	100Ω 5% 0.062W
3340	4822 051 30101	100Ω 5% 0.062W
3341	4822 051 30101	100Ω 5% 0.062W
3342	4822 051 30101	100Ω 5% 0.062W
3343	4822 051 30101	100Ω 5% 0.062W
3345	4822 051 30101	100Ω 5% 0.062W
3346	4822 051 30101	100Ω 5% 0.062W
3347	4822 051 30103	10kΩ 5% 0.062W
3348	4822 051 30479	47Ω 5% 0.062W
3349	4822 051 30103	10kΩ 5% 0.062W
3350	4822 051 30103	10kΩ 5% 0.062W
3351	4822 051 30332	3.3Ω 5% 0.062W
3352	4822 051 30332	3.3Ω 5% 0.062W
3353	4822 051 30103	10kΩ 5% 0.062W
3354	4822 051 30101	100Ω 5% 0.062W
3355	4822 051 30101	100Ω 5% 0.062W
3356	4822 051 30101	100Ω 5% 0.062W
3357	4822 051 30101	100Ω 5% 0.062W
3361	4822 051 30101	100Ω 5% 0.062W
3364	4822 051 30101	100Ω 5% 0.062W
3365	4822 051 30101	100Ω 5% 0.062W
3366	4822 051 30103	10kΩ 5% 0.062W
3368	4822 051 30101	100Ω 5% 0.062W
3370	4822 051 30101	100Ω 5% 0.062W
3372	4822 051 30472	4.7Ω 5% 0.062W
3373	4822 051 30101	100Ω 5% 0.062W
3375	4822 051 30472	4.7Ω 5% 0.062W
3377	4822 051 30332	3.3Ω 5% 0.062W
3378	4822 051 30101	100Ω 5% 0.062W
3379	4822 051 30332	3.3Ω 5% 0.062W
3380	4822 051 30101	100Ω 5% 0.062W
3381	3198 021 32290	22Ω 5% 0603
3382	4822 051 30101	100Ω 5% 0.062W
3383	4822 117 12925	47kΩ 1% 0.063W 0603
3384	3198 021 32290	22Ω 5% 0603
3385	4822 117 12925	47kΩ 1% 0.063W 0603
3386	4822 051 30101	100Ω 5% 0.062W
3387	4822 051 30101	100Ω 5% 0.062W
3388	4822 051 30101	100Ω 5% 0.062W
3389	4822 051 30479	47Ω 5% 0.062W
3390	4822 051 30479	47Ω 5% 0.062W
3391	4822 051 30479	47Ω 5% 0.062W
3393	4822 051 30153	15kΩ 5% 0.062W
3394	4822 051 30223	22kΩ 5% 0.062W
3395	4822 051 30152	1.5Ω 5% 0.062W
3396	4822 051 30102	1kΩ 5% 0.062W
3397	4822 117 12925	47kΩ 1% 0.063W 0603
3398	4822 117 13632	100kΩ 1% 0603 0.62W
3399	4822 051 30103	10kΩ 5% 0.062W
3402▲	4822 117 11151	1Ω 5%
3410	4822 051 30101	100Ω 5% 0.062W
3411	4822 051 30101	100Ω 5% 0.062W
3417	4822 051 30101	100Ω 5% 0.062W
3418	4822 051 30101	100Ω 5% 0.062W
3419	4822 051 30101	100Ω 5% 0.062W
3420	4822 051 30101	100Ω 5% 0.062W
3500	4822 051 30151	150Ω 5% 0.062W
3502	4822 051 30151	150Ω 5% 0.062W
3503	4822 051 30151	150Ω 5% 0.062W
3506	4822 051 30151	150Ω 5% 0.062W
3507	4822 051 30151	150Ω 5% 0.062W
3508	4822 051 30333	33kΩ 5% 0.062W
3510	4822 051 30151	150Ω 5% 0.062W
3511	4822 051 30333	33kΩ 5% 0.062W
3512	4822 051 30151	150Ω 5% 0.062W
3513	4822 051 30333	33kΩ 5% 0.062W
3514	4822 051 30151	150Ω 5% 0.062W
3515	4822 051 30333	33kΩ 5% 0.062W
3516	4822 051 30101	100Ω 5% 0.062W
3517	4822 051 30759	75Ω 5% 0.062W
3518	4822 051 30273	27kΩ 5% 0.062W
3519	4822 117 12971	15Ω 5% 0603 0.62W
3520	4822 051 30682	6.8Ω 5% 0.062W
3521	4822 051 30102	1kΩ 5% 0.062W
3522	4822 051 30689	68Ω 5% 0.063W 0603
3523	4822 051 30101	100Ω 5% 0.062W
3524	4822 117 12971	15Ω 5% 0603 0.62W
3525	4822 051 30102	1kΩ 5% 0.062W
3526	4822 051 30759	75Ω 5% 0.062W
3528	4822 051 30101	100Ω 5% 0.062W
3529	4822 051 30101	100Ω 5% 0.062W
3530	4822 051 30759	75Ω 5% 0.062W
3531	4822 051 30759	75Ω 5% 0.062W
3532	4822 051 30102	1kΩ 5% 0.062W
3533	4822 051 30759	75Ω 5% 0.062W
3535	4822 051 30689	68Ω 5% 0.063W 0603
3536	4822 051 30102	1kΩ 5% 0.062W
3537	4822 051 30102	1kΩ 5% 0.062W
3538	4822 051 30472	4.7Ω 5% 0.062W
3540	4822 051 30472	4.7Ω 5% 0.062W
3545	4822 051 30101	100Ω 5% 0.062W
3546	4822 051 30759	75Ω 5% 0.062W
3550	4822 051 30273	27kΩ 5% 0.062W
3551	4822 051 30682	6.8Ω 5% 0.062W
3552	4822 051 30101	100Ω 5% 0.062W
3553	4822 051 30759	75Ω 5% 0.062W
3554	4822 051 30689	68Ω 5% 0.063W 0603
3555	4822 051 30689	68Ω 5% 0.063W 0603
3601	4822 051 30759	75Ω 5% 0.062W
3603	4822 051 30759	75Ω 5% 0.062W
3605	4822 051 30759	75Ω 5% 0.062W
3607	4822 051 30151	150Ω 5% 0.062W
3608	4822 051 30333	33kΩ 5% 0.062W
3611	4822 051 30151	150Ω 5% 0.062W
3612	4822 051 30333	33kΩ 5% 0.062W
3617	4822 051 30101	100Ω 5% 0.062W
3618	4822 051 30101	100Ω 5% 0.062W
3619	4822 051 30101	100Ω 5% 0.062W
3801	4822 117 12925	47kΩ 1% 0.063W 0603
3802	4822 117 12925	47kΩ 1% 0.063W 0603
3803	3198 021 31080	1Ω 5% 0603

3804	3198 021 31080	1Ω 5% 0603
3805	4822 051 30221	220Ω 5% 0.062W
3806	4822 051 30221	220Ω 5% 0.062W
3807	3198 031 13390	4 x 33Ω 5% 1206
3809	4822 051 30103	10kΩ 5% 0.062W
3810	4822 051 30472	4.7Ω 5% 0.062W
3811	4822 051 30472	4.7Ω 5% 0.062W
3815	4822 051 30105	1MΩ 5% 0.062W
3819	4822 051 30339	33Ω 5% 0.062W
3828	4822 051 30472	4.7Ω 5% 0.062W
3830	4822 051 30472	4.7Ω 5% 0.062W
3831	4822 117 12925	47kΩ 1% 0.063W 0603
3832	4822 117 12925	47kΩ 1% 0.063W 0603
3833	4822 051 30472	4.7Ω 5% 0.062W
3834	4822 051 30472	4.7Ω 5% 0.062W
3835	4822 051 30339	33Ω 5% 0.062W
3846	4822 051 30472	4.7Ω 5% 0.062W
3850	4822 051 30103	10kΩ 5% 0.062W
3851	3198 031 13390	4 x 33Ω 5% 1206
3852	3198 031 13390	4 x 33Ω 5% 1206
3853	3198 031 13390	4 x 33Ω 5% 1206
3854	3198 031 13390	4 x 33Ω 5% 1206
3855	3198 031 13390	4 x 33Ω 5% 1206
3856	3198 031 13390	4 x 33Ω 5% 1206
3857	4822 051 30339	33Ω 5% 0.062W
3858	4822 051 30339	33Ω 5% 0.062W
3859	4822 051 30339	33Ω 5% 0.062W
3860	4822 051 30339	33Ω 5% 0.062W
3862	4822 051 30102	1kΩ 5% 0.062W
3863	4822 051 30222	2.2kΩ 5% 0.062W
3864	4822 051 30101	100Ω 5% 0.062W
3877	4822 051 30222	2.2kΩ 5% 0.062W
3880	4822 051 30102	1kΩ 5% 0.062W
3881	4822 051 30222	2.2kΩ 5% 0.062W
3882	4822 051 30101	100Ω 5% 0.062W
3883	4822 051 30222	2.2kΩ 5% 0.062W
3896	4822 051 30101	100Ω 5% 0.062W
3897	4822 051 30101	100Ω 5% 0.062W
3901	4822 117 12925	47kΩ 1% 0.063W 0603
3902	4822 051 30124	120kΩ 5% 0.062W
3904	4822 051 30339	33Ω 5% 0.062W
3905	4822 117 12925	47kΩ 1% 0.063W 0603
3906	4822 117 13632	100kΩ 1% 0603 0.62W
3907	4822 117 13632	100kΩ 1% 0603 0.62W
3908	4822 051 30124	120kΩ 5% 0.062W
3910	4822 051 30339	33Ω 5% 0.062W
3911	4822 051 30103	10kΩ 5% 0.062W
3912	4822 051 30103	10kΩ 5% 0.062W
3913	4822 051 30102	1kΩ 5% 0.062W
3914	4822 051 30102	1kΩ 5% 0.062W
3915	4822 051 30102	1kΩ 5% 0.062W
3916	4822 051 30102	1kΩ 5% 0.062W
3917	4822 051 30102	1kΩ 5% 0.062W
3918	4822 051 30102	1kΩ 5% 0.062W
3934	4822 051 30472	4.7Ω 5% 0.062W
3935	4822 051 30472	4.7Ω 5% 0.062W
3937	4822 051 30103	10kΩ 5% 0.062W
3938	4822 051 30103	10kΩ 5% 0.062W
3942	4822 051 30102	1kΩ 5% 0.062W
3943	4822 051 30103	10kΩ 5% 0.062W
3A01	5322 117 11726	10Ω 5%
3A02	5322 117 11726	10Ω 5%
3A03	4822 051 30103	10kΩ 5% 0.062W
3A04	4822 051 30123	12kΩ 5% 0.1W
3A05	2322 762 60229	22Ω 5% 1005
3A06	4822 051 30103	10kΩ 5% 0.062W
3A07	4822 051 30103	10kΩ 5% 0.062W
3A08	4822 051 30123	12kΩ 5% 0.1W
3A09	4822 051 30109	10Ω 5% 0.062W
3A11	4822 051 30103	10kΩ 5% 0.062W
3A12	4822 051 30105	1MΩ 5% 0.062W
3A13	4822 051 30393	39kΩ 5% 0.062W
3A14	2322 762 60229	22Ω 5% 1005
3A15	4822 051 30105	1MΩ 5% 0.062W
3A17	4822 051 30109	10Ω 5% 0.062W
3A19	4822 051 30103	10kΩ 5% 0.062W
3A26	4822 051 30223	22kΩ 5% 0.062W
3A27	4822 117 12891	220kΩ 1%
3A28	4822 117 12891	220kΩ 1%
3A29	4822 117 12925	47kΩ 1% 0.063W 0603
3A30	4822 117 12925	47kΩ 1% 0.063W 0603
3A31	4822 051 30103	10kΩ 5% 0.062W
3B11	4822 051 30472	4.7Ω 5% 0.062W
3B12	5322 117 13049	470Ω 1% 0.063W 0603
3B13	4822 051 30221	220Ω 5% 0.062W
3B14	2322 704 61002	1kΩ 1%
3B15	4822 051 30102	1kΩ 5% 0.062W
3B17	4822 051 30682	6.8Ω 5% 0.062W
3B18	4822 051 30682	6.8Ω 5% 0.062W
3B19	4822 051 30103	10kΩ 5% 0.062W
3F10	4822 051 30331	330Ω 5% 0.062W
3F11	4822 051 30684	680kΩ 5% 0.062W
3F12	4822 051 30331	330Ω 5% 0.062W
3F13	4822 117 12891	220kΩ 1%
3F14	4822 051 30331	330Ω 5% 0.062W
3F15	4822 051 30684	680kΩ 5% 0.062W
3F16	4822 051 30391	390Ω 5% 0.062W
3F17	4822 117 12891	220kΩ 1%
3F18	4822 051 30103	10kΩ 5% 0.062W
3F19	4822 051 30472	4.7Ω 5% 0.062W
3F20	4822 051 30472	4.7Ω 5% 0.062W
3F21	4822 051 30339	33Ω 5% 0.062W
3F23	4822 051 30472	4.7Ω 5% 0.062W
3F24	4822 117 13632	100kΩ 1% 0603 0.62W
3F25	4822 117 13632	100kΩ 1% 0603 0.62W
3F26	4822 051 30102	1kΩ 5% 0.062W
3F28	4822 117 13632	100kΩ 1% 0603 0.62W
3F29	4822 117 13632	100kΩ 1% 0603 0.62W
3F30	4822 051 30339	33Ω 5% 0.062W
3F31	3198 031 13390	4 x 33Ω 5% 1206
3F32	3198 031 13390	4 x 33Ω 5% 1206
3F33	4822 051 30103	10kΩ 5% 0.062W
3F34	3198 031 13390	4 x 33Ω 5% 1206
3F40	4822 051 30101	100Ω 5% 0.062W
3F41	4822 051 30272	2.7kΩ 5% 0.062W
3F42	4822 051 30272	2.7kΩ 5% 0.062W
3F44	4822 051 30101	100Ω 5% 0.062W
3F46	4822 051 30101	100Ω 5% 0.062W
3F48	4822 051 30101	100Ω 5% 0.062W
3G11	4822 051 30103	10kΩ 5% 0.062W
3G12	4822 051 30103	10kΩ 5% 0.062W
3G16	4822 051 30103	10kΩ 5% 0.062W
3G17	4822 051 30103	10kΩ 5% 0.062W
3G19	4822 051 30103	10kΩ 5% 0.062W
3G20	4822 051 30103	10kΩ 5% 0.062W
3G28	4822 051 30103	10kΩ 5% 0.062W
3G30	4822 051 30103	10kΩ 5% 0.062W
3G31	4822 051 30103	10kΩ 5% 0.062W
3G33	3198 021 32290	22Ω 5% 0603
3G34	3198 021 32290	22Ω 5% 0603
3G35	3198 021 32290	22Ω 5% 0603
3G37	4822 051 30103	10kΩ 5% 0.062W
3G38	4822 051 30103	10kΩ 5% 0.062W
3G40	5322 117 13036	1.2kΩ 1% 0.063W 0603
3G41	4822 051 30103	10kΩ 5% 0.062W
3G43	4822 051 30101	100Ω 5% 0.062W
3G44	4822 051 30101	100Ω 5% 0.062W
3G46	4822 051 30101	100Ω 5% 0.062W
3G47	4822 051 30101	100Ω 5% 0.062W
3G48	4822 051 30339	33Ω 5% 0.062W
3G54	4822 051 30103	10kΩ 5% 0.062W
3G56	3198 031 13390	4 x 33Ω 5% 1206
3G57	3198 031 13390	4 x 33Ω 5% 1206
3G58	3198 031 13390	4 x 33Ω 5% 1206
3G59	3198 031 13390	4 x 33Ω 5% 1206
3G60	4822 051 30339	33Ω 5% 0.062W
3G61	4822 051 30339	33Ω 5% 0.062W
3G62	4822 051 30339	33Ω 5% 0.062W
3G63	4822 051 30103	10kΩ 5% 0.062W
3H00	4822 051 30332	3.3Ω 5% 0.062W
3H05	4822 051 30103	10kΩ 5% 0.062W
3H09	4822 051 30101	100Ω 5% 0.062W
3H10	4822 051 30101	100Ω 5% 0.062W
3H11	4822 051 30103	10kΩ 5% 0.062W
3H12	4822 051 30332	3.3Ω 5% 0.062W
3H13	4822 051 30332	3.3Ω 5% 0.062W
3H14▲	4822 117 11151	1Ω 5%
3J01	4822 051 30223	22kΩ 5% 0.062W
3J02	4822 051 30123	12kΩ 5% 0.1W
3J03	4822 051 30101	100Ω 5% 0.062W
3J59	4822 051 30181	180Ω 5% 0.062W
3J60	4822 051 30479	47Ω 5% 0.062W
3J61	4822 051 30181	180Ω 5% 0.062W
3J62	4822 051 30479	47Ω 5% 0.062W
3J63	4822 051 30181	180Ω 5% 0.062W
3J64	4822 051 30479	47Ω 5% 0.062W
3J65	4822 051 30181	180Ω 5% 0.062W
3J66	4822 051 30479	47Ω 5% 0.062W
3K00	4822 051 30101	100Ω 5% 0.062W
3K01	4822 051 30101	100Ω 5% 0.062W
3K02	3198 031 13390	4 x 33Ω 5% 1206
3K03	3198 031 13390	4 x 33Ω 5% 1206
3K04	4822 051 30103	10kΩ 5% 0.062W
3K05	3198 031 13390	4 x 33Ω 5% 1206
3K06	4822 051 30103	10kΩ 5% 0.062W
3K07	4822 051 30103	10kΩ 5% 0.062W
3K08	4822 051 30103	10kΩ 5% 0.062W
3K09	4822 051 30103	10kΩ 5% 0.062W
3K10	4822 051 30103	10kΩ 5% 0.062W
3K11	4822 051 30103	10kΩ 5% 0.062W
3K12	4822 051 30103	10kΩ 5% 0.062W
3K13	2322 704 62002	2kΩ 1%
3K15	4822 051 30103	10kΩ 5% 0.062W
3K16	4822 051 30103	10kΩ 5% 0.062W
3K17	4822 051 30103	10kΩ 5% 0.062W
3K18	4822 051 30103	10kΩ 5% 0.062W
3K19	4822 051 30103	10kΩ 5% 0.062W
3K20	4822 051 30103	10kΩ 5% 0.062W
3K21	4822 051 30103	10kΩ 5% 0.062W
3K22	4822 051 30103	10kΩ 5% 0.062W
3K23	3198 031 13390	4 x 33Ω 5% 1206
3K24	3198 031 13390	4 x 33Ω 5% 1206
3K25	4822 051 30339	33Ω 5% 0.062W
3K26	4822 051 30339	33Ω 5% 0.062W
3K27	4822 051 30479	47Ω 5% 0.062W
3K28	4822 051 30479	47Ω 5% 0.062W
3K29	4822 051 30479	47Ω 5% 0.062W
3K30	4822 051 30479	47Ω 5% 0.062W
3K31	4822 051 30479	47Ω 5% 0.062W
3K32	4822 051 30479	47Ω 5% 0.062W
3K33	4822 051 30479	47Ω 5% 0.062W
3K34	4822 117 13573	4 x 47Ω 5%
3K38	4822 051 30479	47Ω 5% 0.062W
3K39	4822 051 30479	47Ω 5% 0.062W
3K40	4822 051 30479	47Ω 5% 0.062W
3K41	4822 051 30479	47Ω 5% 0.062W
3K42	4822 051 30479	47Ω 5% 0.062W
3K43	4822 051 30479	47Ω 5% 0.062W
3K44	4822 051 30479	47Ω 5% 0.062W
3K45	4822 051 30479	47Ω 5% 0.062W
3K46	4822 051 30479	47Ω 5% 0.062W
3K47	4822 051 30479	47Ω 5% 0.062W
3K48	4822 051 30479	47Ω 5% 0.062W
3K49	4822 051 30339	33Ω 5% 0.062W
3K50	4822 051 30339	33Ω 5% 0.062W
3K51	4822 051 30472	4.7Ω 5% 0.062W
3K52	4822 051 30472	4.7Ω 5% 0.062W
3L01	4822 051 30472	4.7Ω 5% 0.062W
3L02	4822 051 30101	100Ω 5% 0.062W
3L04	4822 051 30152	1.5Ω 5% 0.062W
3L05	4822 051 30101	100Ω 5% 0.062W
3L08	4822 051 30101	100Ω 5% 0.062W
3L09	4822 051 30101	100Ω 5% 0.062W
3L10▲	4822 117 11151	1Ω 5%
3L11	4822 051 30101	100Ω 5% 0.062W
3L15	4822 051 30331	330Ω 5% 0.062W
3L22	4822 051 30008	Jumper 0603
3L23	4822 051 30008	Jumper 0603
4110	4822 051 30008	Jumper 0603
4111	4822 051 30008	Jumper 0603
4112	4822 051 30008	Jumper 0603
4115	4822 051 30008	Jumper 0603
4116	4822 051 30008	Jumper 0603
4117	4822 051 30008	Jumper 0603
4118	4822 051 30008	Jumper 0603
4119	4822 051 30008	Jumper 0603
4123	4822 051 30008	Jumper 0603
4124	4822 051 30008	Jumper 0603
4125	4822 051 30008	Jumper 0603
4204	4822 051 30008	Jumper 0603
4205	4822 051 30008	Jumper 0603
4206	4822 051 30008	Jumper 0603
4309	4822 051 30008	Jumper 0603
4310	4822 051 30008	Jumper 0603
4316	4822 051 30008	Jumper 0603
4401	4822 051 30008	Jumper 0603
4402	4822 051 30008	Jumper 0603
4403	4822 051 30008	Jumper 0603
4406	4822 051 30008	Jumper 0603
4407	4822 051 30008	Jumper 0603
4408	4822 051 30008	Jumper 0603
4411	4822 051 30008	Jumper 0603
4803	4822 051 30008	Jumper 0603
4901	4822 051 30008	Jumper 0603
4902	4822 051 30008	Jumper 0603
4903	4822 051 30008	Jumper 0603
4C55	4822 051 30008	Jumper 0603
4C56	4822 051 30008	Jumper 0603
4C61	4822 051 30008	Jumper 0603
4C62	4822 051 30008	Jumper 0603
4F12	4822 051 30008	Jumper 0603
4G01	4822 051 30008	Jumper 0603
4G02	4822 051 30008	Jumper 0603
4G03	4822 051 30008	Jumper 0603
4G04	4822 051 30008	Jumper 0603
4G31	4822 051 30008	Jumper 0603
4H00	4822 051 30008	Jumper 0603
4H02	4822 051 30008	Jumper 0603
4H04	4822 051 30008	Jumper 0603
4H05	4822 051 30008	Jumper 0603
4H12	4822 051 30008	Jumper 0603
4J14	4822 051 30008	Jumper 0603
4J15	4822 051 30008	Jumper 0603
4L20	4822 051 30008	Jumper 0603
4L21	4822 051 30008	Jumper 0603
4L24	4822 051 30008	Jumper 0603
4L25	4822 051 30008	Jumper 0603

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5111	2422 536 01057	0.39µH 5% 0603

5112	2422 549 44197	Bead 220Ω at 100MHz
5114	2422 536 01521	10µH 10% 1207
5115	2422 536 01521	10µH 10% 1207
5118	2422 549 44197	Bead 220Ω at 100MHz
5210	4822 157 11499	Bead 60Ω at 100MHz
5212	4822 157 11499	Bead 60Ω at 100MHz
5213	4822 157 11499	Bead 60Ω at 100MHz
5214	4822 157 11499	Bead 60Ω at 100MHz
5215	2422 549 44197	Bead 220Ω at 100MHz
5216	2422 549 43769	Bead 30Ω at 100MHz
5217	2422 549 44197	Bead 220Ω at 100MHz
5218	4822 157 11499	Bead 60Ω at 100MHz
5219	4822 157 11499	Bead 60Ω at 100MHz
5220	4822 157 11499	Bead 60Ω at 100MHz
5221	4822 157 11499	Bead 60Ω at 100MHz
5222	4822 157 11499	Bead 60Ω at 100MHz
5223	4822 157 11499	Bead 60Ω at 100MHz
5224	4822 157 11499	Bead 60Ω at 100MHz
5225	4822 157 11499	Bead 60Ω at 100MHz
5226	4822 157 11499	Bead 60Ω at 100MHz
5227	4822 157 11499	Bead 60Ω at 100MHz
5228	4822 157 11499	Bead 60Ω at 100MHz
5301	4822 157 11499	Bead 60Ω at 100MHz
5302	4822 157 11499	Bead 60Ω at 100MHz
5304	2422 549 01397	Bead 220Ω at 100MHz
5401	2422 549 42896	Bead 120Ω 100MHz
5402	2422 549 42896	Bead 120Ω 100MHz
5403	3198 018 62290	22µH 5% 1008
5810	2422 549 42896	Bead 120Ω 100MHz
5811	2422 549 42896	Bead 120Ω 100MHz
5812	2422 549 42896	Bead 120Ω 100MHz
5813	2422 549 42896	Bead 120Ω 100MHz
5814	2422 549 42896	Bead 120Ω 100MHz
5815	2422 549 42896	Bead 120Ω 100MHz
5816	2422 549 42896	Bead 120Ω 100MHz
5817	2422 549 42896	Bead 120Ω 100MHz
5818	2422 549 42896	Bead 120Ω 100MHz
5A03	2422 536 01564	22µH 20%
5A04	2422 536 01564	22µH 20%
5A05	4822 157 11716	Bead 30Ω at 100MHz
5A06	4822 157 11716	Bead 30Ω at 100MHz
5A07	2422 549 45186	Bead 100MHz 0805
5B01	2422 535 94134	10µH 20% 0805
5B02	2422 536 00779	10µH 20%
5B03	2422 536 00707	33µH 20%
5B06	2422 536 01516	68µF 20%
5B10	2422 536 01495	22µH 10%
5B11	2422 536 01495	22µH 10%
5F10	4822 157 11499	Bead 60Ω at 100MHz
5F11	4822 157 11499	Bead 60Ω at 100MHz
5G01	4822 157 11717	Bead 50Ω at 100MHz
5G02	4822 157 11717	Bead 50Ω at 100MHz
5G03	4822 157 11717	Bead 50Ω at 100MHz
5G04	4822 157 11499	Bead 60Ω at 100MHz
5H01	4822 157 11499	Bead 60Ω at 100MHz
5H02	4822 157 11499	Bead 60Ω at 100MHz
5H03	4822 157 11499	Bead 60Ω at 100MHz
5J01	4822 157 11499	Bead 60Ω at 100MHz
5J52	3198 018 53380	3.3µH 10% 0603
5J53	3198 018 53380	3.3µH 10% 0603
5J54	3198 018 53380	3.3µH 10% 0603
5J55	3198 018 53380	3.3µH 10% 0603
5K01	4822 157 11499	Bead 60Ω at 100MHz
5K02	4822 157 11499	Bead 60Ω at 100MHz
5K03	4822 157 11499	Bead 60Ω at 100MHz
5K04	4822 157 11499	Bead 60Ω at 100MHz
5K05	4822 157 11499	Bead 60Ω at 100MHz

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6103	4822 130 11525	1SS356
6110	4822 130 11397	BAS316
6202	3198 020 55680	BZX384-C5V6
6301	4822 130 11397	BAS316
6306	4822 130 11416	PDZ6.8B
6307	4822 130 11416	PDZ6.8B
6318	9340 548 54115	PDZ6.2B
6511	9340 580 04115	PESD5V0S1BA
6512	9965 000 20150	1N4148WS SOD-323
6513	9965 000 20150	1N4148WS SOD-323
6517	9340 580 04115	PESD5V0S1BA
6801	4822 130 80622	BAT54
6802	4822 130 80622	BAT54
6830	4822 130 80622	BAT54
6831	4822 130 80622	BAT54
6914	4822 130 80622	BAT54
6916	4822 130 11397	BAS316
6919	4822 130 11397	BAS316
6B01	3198 010 10720	SS24
6B02	9340 548 71115	PDZ33B
6B03	5322 130 34337	BAV99
6J03	4822 130 11397	BAS316

7109	5322 130 60159	BC846B
7111	3198 010 70350	74HCT4053D
7113	9352 723 71118	TDA9886T/V4
7114	5322 130 60159	BC846B
7133	9322 104 47668	L78M05CDT
7202	9322 240 94671	SVP CX32-LF
7203	3198 010 42310	BC847BW
7204	9322 245 45668	SVP CX32-LF
7205	9322 245 45668	SVP CX32-LF
7206	3198 010 42310	BC847BW
7208	4822 130 11155	PDTC114ET
7210	9322 204 71668	SI4835BDY
7308	3198 010 42310	BC847BW
7310		For SW see item 0815
7311	9322 245 53671	M30300SAGP
7312	9322 229 46685	BD45275G
7315		For SW see item 0816
7316	3198 010 42310	BC847BW
7317	3198 010 42310	BC847BW
7320	9340 560 36235	BSH111
7321	9340 560 36235	BSH111
7322	4822 130 11155	PDTC114ET
7323	9322 246 85685	NL27WZ08USG
7410	9322 198 11685	L78L08ACU
7411	9322 243 36671	MSP4450P-VK-E8
7500	5322 130 60159	BC846B
7502	3198 010 42320	BC857BW
7503	5322 130 60159	BC846B
7504	3198 010 42320	BC857BW
7810	9352 668 39118	UDA1334ATS/N2
7811		For SW see item 0822
7812	9965 000 04199	BSN20
7813	9965 000 04199	BSN20
7814	3198 010 42310	BC847BW
7816	3198 010 42310	BC847BW
7817	9322 245 55671	SII9025CTU
7824	9965 000 04199	BSN20
7825	9965 000 04199	BSN20
7850		For SW see item 0821
7851	9965 000 04199	BSN20
7852	9965 000 04199	BSN20
7860	3198 010 42310	BC847BW
7861	3198 010 42310	BC847BW
7901	9322 183 05668	TS482ID
7902	3198 010 42320	BC857BW
7911	3198 010 42310	BC847BW
7912	3198 010 42310	BC847BW
7913	3198 010 42310	BC847BW
7914	3198 010 42310	BC847BW
7915	3198 010 42310	BC847BW
7916	3198 010 42310	BC847BW
7917	3198 010 42320	BC857BW
7919	3198 010 42310	BC847BW
7922	3198 010 42310	BC847BW
7A01	9352 796 42518	TDA8932T/N1
7A05	3198 010 42320	BC857BW
7A06	3198 010 42310	BC847BW
7A07	3198 010 42310	BC847BW
7B01	9322 202 34668	L5973D
7B02	4822 209 17398	LD1117DT33
7B03	4822 130 11057	2N7002
7B04	9322 175 62687	LD1085D2T33
7B05	9322 212 14668	SI4423DY
7B06	4822 209 17398	LD1117DT33
7B08	9322 144 97668	LD1117DT
7F01	9352 732 45557	TDA10046AHT/C1
7F02	9352 630 16165	74AHC1GU04GW
7F03	9352 630 16165	74AHC1GU04GW
7F04	5322 209 70225	LM393D
7G00	9352 773 55557	PNX8314HS/C102
7H00		For SW see item 0851
7H02	9322 241 27668	K4S281632I-UC60
7H03		For SW see item 0852
7J04	9322 214 00668	SI2301BDS-E3
7J05	4822 130 11155	PDTC114ET
7K00	9322 227 91671	STV0700L
7K01	9352 190 10118	74LVC573ADB
7K02	9352 190 10118	74LVC573ADB
7K03	9352 115 40118	74LVC245APW
7K04	2722 171 08821	XTL 27MHz 50pF
7K05	9322 175 13668	ST890CD

Side I/O Panel [D]

Various

1301	2422 026 05133	Connector SVHS 4p f
1302	2422 026 05807	Soc. Cinch 3p f YeWhRd
1303	4822 267 31014	Socket Headphone
1304	2422 025 10655	Connector 11p m

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2301	4822 126 11785	47pF 5% 50V 0603
2302	4822 126 11785	47pF 5% 50V 0603
2303	4822 122 33761	22pF 5% 50V
2304	4822 126 11785	47pF 5% 50V 0603
2305	3198 016 31020	1nF 25V 0603
2306	3198 016 31020	1nF 25V 0603
2307	2238 916 15641	22nF 10% 25V 0603
2308	2238 916 15641	22nF 10% 25V 0603
2309	5322 126 11583	10nF 10% 50V 0603
2310	5322 126 11583	10nF 10% 50V 0603
2311	3198 016 36890	68pF 50V 0603
2313	3198 016 31020	1nF 25V 0603
2314	3198 016 31020	1nF 25V 0603

⌐WW⌐

3301	4822 051 30759	75Ω 5% 0.062W
3302	4822 051 30759	75Ω 5% 0.062W
3303	4822 051 30109	10Ω 5% 0.062W
3304	4822 051 30101	100Ω 5% 0.062W
3305	4822 051 30109	10Ω 5% 0.062W
3306	4822 051 30101	100Ω 5% 0.062W
3308	4822 051 30151	150Ω 5% 0.062W
3309	4822 051 30333	33kΩ 5% 0.062W
3310	4822 051 30151	150Ω 5% 0.062W
3311	4822 051 30333	33kΩ 5% 0.062W
3312	4822 051 30103	10kΩ 5% 0.062W
3313	4822 051 30103	10kΩ 5% 0.062W
4308	2422 549 42896	Bead 120Ω 100MHz
4309	2422 549 42896	Bead 120Ω 100MHz

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6301	9322 146 61685	DF3A6.8FU
6302	9322 146 61685	DF3A6.8FU
6303	9322 146 61685	DF3A6.8FU
6304	9322 146 61685	DF3A6.8FU
6305	9322 146 61685	DF3A6.8FU
6306	9322 146 61685	DF3A6.8FU
6307	9322 146 61685	DF3A6.8FU

Keyboard Control Panel [E]

Various

1011	4822 276 13775	Switch 1p 0.1A 12V
1012	4822 276 13775	Switch 1p 0.1A 12V
1013	4822 276 13775	Switch 1p 0.1A 12V
1014	4822 276 13775	Switch 1p 0.1A 12V
1015	4822 276 13775	Switch 1p 0.1A 12V
1016	4822 276 13775	Switch 1p 0.1A 12V
1M01	2422 025 10775	Connector 3p m

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2001	4822 126 13881	470pF 5% 50V

⌐WW⌐

3010	4822 051 30391	390Ω 5% 0.062W
3011	4822 051 30561	560Ω 5% 0.062W
3012	3198 021 31820	1.8kΩ 5% 0.062W 0603
3013	4822 051 30151	150Ω 5% 0.062W
3014	4822 117 12968	820Ω 5% 0.62W
3015	4822 051 30008	Jumper 0603
3016	4822 051 30008	Jumper 0603
3017	4822 051 30008	Jumper 0603
4001	4822 051 30008	Jumper 0603

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6011	4822 130 11564	UDZ3.9B
6012	4822 130 11564	UDZ3.9B
6014	3198 020 55680	BZX384-C5V6
6015	3198 020 55680	BZX384-C5V6
6016	3198 020 55680	BZX384-C5V6
6017	3198 020 55680	BZX384-C5V6
6018	3198 020 55680	BZX384-C5V6

1080P Panel (F)

Various

1101	2422 025 18738	Connector 3p m
1411	2422 549 45325	Bead 67Ω at 100MHz
1412	2422 549 45325	Bead 67Ω at 100MHz
1413	2422 549 45325	Bead 67Ω at 100MHz
1414	2422 549 45325	Bead 67Ω at 100MHz
1415	2422 549 45325	Bead 67Ω at 100MHz
1416	2422 549 45325	Bead 67Ω at 100MHz
1417	2422 549 45325	Bead 67Ω at 100MHz
1418	2422 549 45325	Bead 67Ω at 100MHz
1419	2422 549 45325	Bead 67Ω at 100MHz
1420	2422 549 45325	Bead 67Ω at 100MHz
1510	2422 543 01374	Xtal 14.318MHz
1710	2422 025 18779	Connector 4p m
1G51	2422 025 19829	Connector 40p m
1G52	2422 025 18973	Conn. 41p f 0.5 smd

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2210	3198 035 71040	100nF 10% 16V 0402
2211	4822 124 23002	10µF 16V
2212	3198 035 71030	10nF 16V 0402
2213	3198 035 71030	10nF 16V 0402
2215	3198 035 71040	100nF 10% 16V 0402
2216	2020 552 96834	1µF 20% 6.3V 0402
2310	3198 035 71040	100nF 10% 16V 0402
2311	3198 035 71040	100nF 10% 16V 0402
2312	3198 035 71040	100nF 10% 16V 0402
2313	3198 035 71040	100nF 10% 16V 0402
2314	3198 035 71040	100nF 10% 16V 0402
2315	3198 035 71040	100nF 10% 16V 0402
2316	2020 552 96834	1µF 20% 6.3V 0402
2317	3198 035 71040	100nF 10% 16V 0402
2412	2238 869 15109	10pF 5% 50V 0402
2413	2238 869 15109	10pF 5% 50V 0402
2415	2238 869 15109	10pF 5% 50V 0402
2416	2238 869 15109	10pF 5% 50V 0402
2417	2238 869 15109	10pF 5% 50V 0402
2418	2238 869 15109	10pF 5% 50V 0402
2419	2238 869 15109	10pF 5% 50V 0402
2420	2238 869 15109	10pF 5% 50V 0402
2421	2238 869 15109	10pF 5% 50V 0402
2422	2238 869 15109	10pF 5% 50V 0402
2423	2238 869 15109	10pF 5% 50V 0402
2424	2238 869 15109	10pF 5% 50V 0402
2425	2238 869 15109	10pF 5% 50V 0402
2426	2238 869 15109	10pF 5% 50V 0402
2427	2238 869 15109	10pF 5% 50V 0402
2428	2238 869 15109	10pF 5% 50V 0402
2429	2238 869 15109	10pF 5% 50V 0402
2430	2238 869 15109	10pF 5% 50V 0402
2431	2238 869 15109	10pF 5% 50V 0402
2432	2238 869 15109	10pF 5% 50V 0402
2512	3198 035 71040	100nF 10% 16V 0402
2513	3198 035 71040	100nF 10% 16V 0402
2514	3198 035 71040	100nF 10% 16V 0402
2515	3198 035 71040	100nF 10% 16V 0402
2516	3198 035 71040	100nF 10% 16V 0402
2517	3198 035 71040	100nF 10% 16V 0402
2518	3198 035 71040	100nF 10% 16V 0402
2519	3198 035 71040	100nF 10% 16V 0402
2520	3198 035 71040	100nF 10% 16V 0402
2521	3198 035 71040	100nF 10% 16V 0402
2522	3198 035 71040	100nF 10% 16V 0402
2523	3198 035 71040	100nF 10% 16V 0402
2524	3198 035 71040	100nF 10% 16V 0402
2525	3198 035 71040	100nF 10% 16V 0402
2526	3198 035 71040	100nF 10% 16V 0402
2527	3198 035 71040	100nF 10% 16V 0402
2528	3198 035 71040	100nF 10% 16V 0402
2529	3198 035 71040	100nF 10% 16V 0402
2530	3198 035 71040	100nF 10% 16V 0402
2531	3198 035 71040	100nF 10% 16V 0402
2532	3198 035 71040	100nF 10% 16V 0402
2533	3198 035 71040	100nF 10% 16V 0402
2534	3198 035 71040	100nF 10% 16V 0402
2535	2020 021 91557	100µF 20% 16V
2536	2020 021 91557	100µF 20% 16V
2537	3198 035 71040	100nF 10% 16V 0402
2538	3198 035 71040	100nF 10% 16V 0402
2539	3198 035 71040	100nF 10% 16V 0402
2540	5322 124 41945	22µF 20% 35V
2541	3198 035 71040	100nF 10% 16V 0402
2542	3198 035 71040	100nF 10% 16V 0402
2543	3198 035 71040	100nF 10% 16V 0402
2544	3198 035 71040	100nF 10% 16V 0402
2546	4822 126 14519	22pF 5% 50V 0402
2547	4822 126 14519	22pF 5% 50V 0402
2548	2020 021 91557	100µF 20% 16V
2549	3198 035 71040	100nF 10% 16V 0402
2550	3198 035 71040	100nF 10% 16V 0402
2551	3198 035 71040	100nF 10% 16V 0402
2552	3198 035 71040	100nF 10% 16V 0402
2553	3198 035 71040	100nF 10% 16V 0402
2554	3198 035 71040	100nF 10% 16V 0402
2555	3198 035 71040	100nF 10% 16V 0402
2558	4822 124 23237	22µF 6.3V
2559	3198 035 71040	100nF 10% 16V 0402
2560	3198 035 71040	100nF 10% 16V 0402
2561	3198 035 71040	100nF 10% 16V 0402
2562	3198 035 71040	100nF 10% 16V 0402
2563	3198 035 71040	100nF 10% 16V 0402
2564	3198 035 71040	100nF 10% 16V 0402
2565	4822 124 23237	22µF 6.3V
2566	3198 035 71040	100nF 10% 16V 0402
2567	3198 035 71040	100nF 10% 16V 0402
2568	3198 035 71040	100nF 10% 16V 0402
2569	3198 035 71040	100nF 10% 16V 0402
2570	3198 035 71040	100nF 10% 16V 0402
2571	3198 035 71040	100nF 10% 16V 0402
2572	3198 035 71040	100nF 10% 16V 0402
2573	3198 035 71040	100nF 10% 16V 0402
2574	3198 035 71040	100nF 10% 16V 0402
2575	4822 124 23237	22µF 6.3V
2576	4822 124 23237	22µF 6.3V
2577	3198 035 71040	100nF 10% 16V 0402
2578	4822 124 23237	22µF 6.3V
2610	2020 552 96834	1µF 20% 6.3V 0402
2611	3198 035 71040	100nF 10% 16V 0402
2612	3198 035 71040	100nF 10% 16V 0402
2613	3198 035 71040	100nF 10% 16V 0402
2614	3198 035 71040	100nF 10% 16V 0402
2615	3198 035 71040	100nF 10% 16V 0402
2616	3198 035 71040	100nF 10% 16V 0402
2617	3198 035 71040	100nF 10% 16V 0402
2618	3198 035 71040	100nF 10% 16V 0402
2619	3198 035 71040	100nF 10% 16V 0402
2620	3198 035 71040	100nF 10% 16V 0402
2621	3198 035 71040	100nF 10% 16V 0402
2622	3198 035 71040	100nF 10% 16V 0402
2623	3198 035 71040	100nF 10% 16V 0402
2624	3198 035 71040	100nF 10% 16V 0402
2625	3198 035 71040	100nF 10% 16V 0402
2626	3198 035 71040	100nF 10% 16V 0402
2627	3198 035 71040	100nF 10% 16V 0402
2628	3198 035 71040	100nF 10% 16V 0402
2629	3198 035 71040	100nF 10% 16V 0402
2630	3198 035 71040	100nF 10% 16V 0402
2631	3198 035 71040	100nF 10% 16V 0402
2632	3198 035 71040	100nF 10% 16V 0402
2633	3198 035 71040	100nF 10% 16V 0402
2634	3198 035 71040	100nF 10% 16V 0402
2635	3198 035 71040	100nF 10% 16V 0402
2636	3198 035 71040	100nF 10% 16V 0402
2637	3198 035 71040	100nF 10% 16V 0402
2638	3198 035 71040	100nF 10% 16V 0402
2639	3198 035 71040	100nF 10% 16V 0402
2640	3198 035 71040	100nF 10% 16V 0402
2641	4822 124 11131	47µF 6.3V
2642	4822 124 11131	47µF 6.3V
2643	3198 035 71040	100nF 10% 16V 0402
2644	5322 124 41945	22µF 20% 35V
2710	3198 035 71040	100nF 10% 16V 0402
2711	2020 552 96618	1nF 10% 50V 0402
2712	4822 124 12095	100µF 20% 16V
2713	3198 035 71040	100nF 10% 16V 0402
2714	3198 035 71040	100nF 10% 16V 0402
2715	3198 035 71040	100nF 10% 16V 0402
2716	2020 552 00134	22µF 20% 6.3V 0805
2717	3198 035 71040	100nF 10% 16V 0402
2718	3198 035 71040	100nF 10% 16V 0402
2719	2020 552 00027	4.7µF 2% 6.3V 0603
2720	2020 552 96631	15nF 10% 16V 0402
2721	2020 552 96621	1.5nF 10% 50V 0402
2722	3198 035 74730	47nF 5% 16V 0402
2723	2020 012 00004	330µF 20% 16V
2724	3198 035 71040	100nF 10% 16V 0402
2727	2020 552 96637	10µF 10% 6.3V 0805
2728	3198 035 71040	100nF 10% 16V 0402
2729	3198 035 71040	100nF 10% 16V 0402
2730	2020 012 00004	330µF 20% 16V

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3110	4822 117 13606	10kΩ 5% 0.01W 0402
3111	4822 117 13606	10kΩ 5% 0.01W 0402
3112	4822 117 13545	100Ω 1% 0402
3113	4822 117 13545	100Ω 1% 0402
3114	4822 117 13606	10kΩ 5% 0.01W 0402
3115	4822 117 13606	10kΩ 5% 0.01W 0402
3116	4822 117 13606	10kΩ 5% 0.01W 0402
3117	4822 117 13606	10kΩ 5% 0.01W 0402
3118	4822 117 13606	10kΩ 5% 0.01W 0402
3119	4822 117 13606	10kΩ 5% 0.01W 0402
3202	3198 031 11030	4 x 10kΩ 5% 1206
3204	3198 031 11030	4 x 10kΩ 5% 1206
3205	3198 031 11030	4 x 10kΩ 5% 1206
3210	4822 117 13606	10kΩ 5% 0.01W 0402
3211	4822 117 13606	10kΩ 5% 0.01W 0402
3212	4822 117 13606	10kΩ 5% 0.01W 0402
3213	4822 117 13606	10kΩ 5% 0.01W 0402
3214	4822 117 13606	10kΩ 5% 0.01W 0402
3215	4822 117 13606	10kΩ 5% 0.01W 0402
3216	4822 117 13606	10kΩ 5% 0.01W 0402
3217	3198 031 02240	220kΩ 5% 0.1W 0402
3222	4822 117 13548	1kΩ 5% 0402
3224	4822 117 13597	330Ω 5% 0.01W 0402
3226	4822 117 13606	10kΩ 5% 0.01W 0402
3227	4822 117 13606	10kΩ 5% 0.01W 0402
3230	4822 117 13606	10kΩ 5% 0.01W 0402
3231	4822 117 13606	10kΩ 5% 0.01W 0402
3232	4822 117 13548	1kΩ 5% 0402
3313	4822 117 13545	100Ω 1% 0402
3314	4822 117 13606	10kΩ 5% 0.01W 0402
3315	4822 117 13606	10kΩ 5% 0.01W 0402
3316	4822 117 13606	10kΩ 5% 0.01W 0402
3317	4822 117 13545	100Ω 1% 0402
3318	4822 117 13606	10kΩ 5% 0.01W 0402
3319	4822 117 13606	10kΩ 5% 0.01W 0402
3320	4822 117 13606	10kΩ 5% 0.01W 0402
3321	4822 117 13606	10kΩ 5% 0.01W 0402
3322	4822 117 13545	100Ω 1% 0402
3323	4822 117 13606	10kΩ 5% 0.01W 0402
3324	4822 117 13606	10kΩ 5% 0.01W 0402
3325	4822 117 13606	10kΩ 5% 0.01W 0402
3326	4822 117 13606	10kΩ 5% 0.01W 0402
3327	4822 117 13606	10kΩ 5% 0.01W 0402
3328	4822 117 13545	100Ω 1% 0402
3329	4822 117 13606	10kΩ 5% 0.01W 0402
3330	4822 117 13545	100Ω 1% 0402
3332	3198 031 04720	4.7kΩ 5% 0402
3357	4822 117 13606	10kΩ 5% 0.01W 0402
3413	3198 031 03320	3.3kΩ 5% 0402
3510	4822 117 13606	10kΩ 5% 0.01W 0402
3511	4822 117 13606	10kΩ 5% 0.01W 0402
3512	4822 117 13606	10kΩ 5% 0.01W 0402
3513	4822 117 13606	10kΩ 5% 0.01W 0402
3514	4822 117 13606	10kΩ 5% 0.01W 0402
3515	4822 117 13606	10kΩ 5% 0.01W 0402
3516	4822 117 13606	10kΩ 5% 0.01W 0402
3517	4822 117 13606	10kΩ 5% 0.01W 0402
3518	4822 117 13606	10kΩ 5% 0.01W 0402
3519	4822 117 13606	10kΩ 5% 0.01W 0402
3520	4822 117 13606	10kΩ 5% 0.01W 0402
3521	4822 117 13606	10kΩ 5% 0.01W 0402
3522	4822 117 13606	10kΩ 5% 0.01W 0402
3523	4822 117 13606	10kΩ 5% 0.01W 0402
3524	4822 117 13606	10kΩ 5% 0.01W 0402
3525	4822 117 13606	10kΩ 5% 0.01W 0402
3526	3198 031 03320	3.3kΩ 5% 0402
3527	4822 117 13606	10kΩ 5% 0.01W 0402
3528	4822 117 13606	10kΩ 5% 0.01W 0402
3529	4822 117 13606	10kΩ 5% 0.01W 0402
3530	4822 117 13606	10kΩ 5% 0.01W 0402
3531	4822 117 13606	10kΩ 5% 0.01W 0402
3532	4822 117 13606	10kΩ 5% 0.01W 0402
3533	4822 117 13606	10kΩ 5% 0.01W 0402
3534	4822 117 13606	10kΩ 5% 0.01W 0402
3535	4822 117 13606	10kΩ 5% 0.01W 0402
3536	4822 117 13606	10kΩ 5% 0.01W 0402
3537	4822 117 13606	10kΩ 5% 0.01W 0402
3538	4822 117 13606	10kΩ 5% 0.01W 0402
3539	4822 117 13606	10kΩ 5% 0.01W 0402
3542	4822 117 13545	100Ω 1% 0402
3543	4822 117 13545	100Ω 1% 0402
3610	2322 704 61003	10kW 1% 0603
3611	2322 704 61003	10kW 1% 0603
3612	4822 117 13606	10kΩ 5% 0.01W 0402
3613	4822 117 13606	10kΩ 5% 0.01W 0402
3614	2322 704 61501	150Ω 1% 0603
3615	4822 117 13606	10kΩ 5% 0.01W 0402
3618	4822 117 13546	47Ω 5% 0402
3619	4822 117 13546	47Ω 5% 0402
3620	4822 117 13546	47Ω 5% 0402
3625	4822 117 13546	47Ω 5% 0402
3626	4822 117 13546	47Ω 5% 0402
3627	4822 117 13546	47Ω 5% 0402
3628	4822 117 13546	47Ω 5% 0402
3631	4822 117 13573	4 x 47Ω 5%
3632	4822 117 13573	4 x 47Ω 5%
3633	4822 117 13573	4 x 47Ω 5%
3634	4822 117 13573	4 x 47Ω 5%
3635	4822 117 13573	4 x 47Ω 5%
3636	4822 117 13573	4 x 47Ω 5%
3637	4822 117 13573	4 x 47Ω 5%

3639	4822 117 13573	4 x 47Ω 5%
3640	4822 117 13573	4 x 47Ω 5%
3641	4822 117 13573	4 x 47Ω 5%
3642	4822 117 13573	4 x 47Ω 5%
3643	4822 117 13573	4 x 47Ω 5%
3645	4822 117 13546	47Ω 5% 0402
3646	4822 117 13546	47Ω 5% 0402
3710	2322 702 60511	510Ω 5% 0603
3711	4822 117 13606	10kΩ 5% 0.01W 0402
3712	4822 117 11297	100kΩ 5% 0.1W
3713	3198 031 01090	10Ω 5% 0.01W 0402
3714	3198 031 02720	2.7kΩ 5% 0.01W 0402
3715	3198 031 04720	4.7kΩ 5% 0402
3716	4822 117 13548	1kΩ 5% 0402
3717	3198 031 01820	1.8kΩ 5% 0.01W 0402
4311	4822 117 13605	Jumper 0402
4315	4822 117 13605	Jumper 0402
4316	4822 117 13605	Jumper 0402
4317	4822 117 13605	Jumper 0402
4401	4822 117 13605	Jumper 0402

5710	2422 535 94134	10µH 20% 0805
5711	2422 536 00671	10µH 20%
5712	2422 549 43769	Bead 30Ω at 100MHz
5713	2422 549 43769	Bead 30Ω at 100MHz
5714	2422 549 43769	Bead 30Ω at 100MHz
5715	2422 549 43769	Bead 30Ω at 100MHz
5716	2422 549 43769	Bead 30Ω at 100MHz
5717	2422 549 43769	Bead 30Ω at 100MHz
5718	2422 549 43769	Bead 30Ω at 100MHz
5719	2422 549 43769	Bead 30Ω at 100MHz
5720	2422 549 43769	Bead 30Ω at 100MHz
5721	2422 549 43769	Bead 30Ω at 100MHz
5722	2422 549 43769	Bead 30Ω at 100MHz
5723	2422 549 43769	Bead 30Ω at 100MHz
5724	2422 549 43769	Bead 30Ω at 100MHz

6101	4822 130 11416	PDZ6.8B
6102	4822 130 11416	PDZ6.8B
6210	4822 130 11525	1SS356
6211	4822 130 11416	PDZ6.8B
6701	4822 130 11397	BAS316

7101	9322 246 49671	GM1601-LF-CF
7201		For SW see item 0823
7203	9322 215 39685	PST596JN
7301	9322 210 59668	THC63LVDF84B
7601	9322 235 50668	K4D263238I-UC50
7701	9322 160 70668	SI4936ADY
7710	9322 182 77668	L6910
7713	9322 160 50668	LD1117DT25
7714	9322 217 28668	LD1117DT18

IR LED Panel [J]

Various

1M01	2422 025 10775	Connector 3p m
1M01	2422 025 18146	Connector 3p m Wh
1M20	2422 025 18151	Connector 7p m Wh
1M20	4822 265 41343	Connector 7p m

2001	2020 552 00134	22µF 20% 6.3V 0805

3010	4822 051 30331	330Ω 5% 0.062W
3011	4822 051 30682	6.8Ω 5% 0.062W
3012	4822 051 30682	6.8Ω 5% 0.062W
3013	4822 117 12968	820Ω 5% 0.62W
3014	4822 051 30103	10kΩ 5% 0.062W
3019	4822 051 30151	150Ω 5% 0.062W
3020	4822 051 30151	150Ω 5% 0.062W
4001	4822 051 30008	Jumper 0603
4002	4822 051 30008	Jumper 0603
4004	4822 051 30008	Jumper 0603
4005	4822 051 30008	Jumper 0603
4010	4822 051 30008	Jumper 0603
4012	4822 051 30008	Jumper 0603
4015	4822 051 30008	Jumper 0603
4017	4822 051 30008	Jumper 0603
4019	4822 051 30008	Jumper 0603

6010	9322 243 77676	LED L-174A2PBC
6011	9322 244 07676	LED L-174A2IT-TNB5-19
6012	4822 130 11148	UDZ4.7B

7010	9322 243 06671	IR Receiver
7011	5322 130 60159	BC846B
7012	5322 130 60159	BC846B

11. Revision List

Manual xxxx xxx xxxx.0

- First release.

Manual xxxx xxx xxxx.1

- **All chapters**: 1080p panel info and new model numbers added.
- **Per chapter** the following changes:
  1. Updated with new model numbers.
  2. Minor textual changes.
  3. No changes.
  4. Updated with new model numbers. Minor textual changes.
  5. Display code table moved to chapter 8. Minor textual changes. Error code table slightly adapted. Added SW upgrade description for 1080p panel. Fault finding flow charts updated.
  6. Block diagrams updated with new model numbers.
  7. Diagrams of the 1080p panel added.
  8. Updated with new model numbers. Minor textual changes.
  9. Description of 1080p panel added. Minor textual changes. Some redundant info removed. Missing IC data sheets added.
  10. Spare parts of new model numbers added.

Manual xxxx xxx xxxx.2

- All chapters: minor textual changes.
- All chapters updated with **PFL3512/12 models (so-called “Promo” sets).

Manual xxxx xxx xxxx.3

- **Chapter 6:** Block diagrams updated.